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From Geo. H. Mosby

Christmas Present

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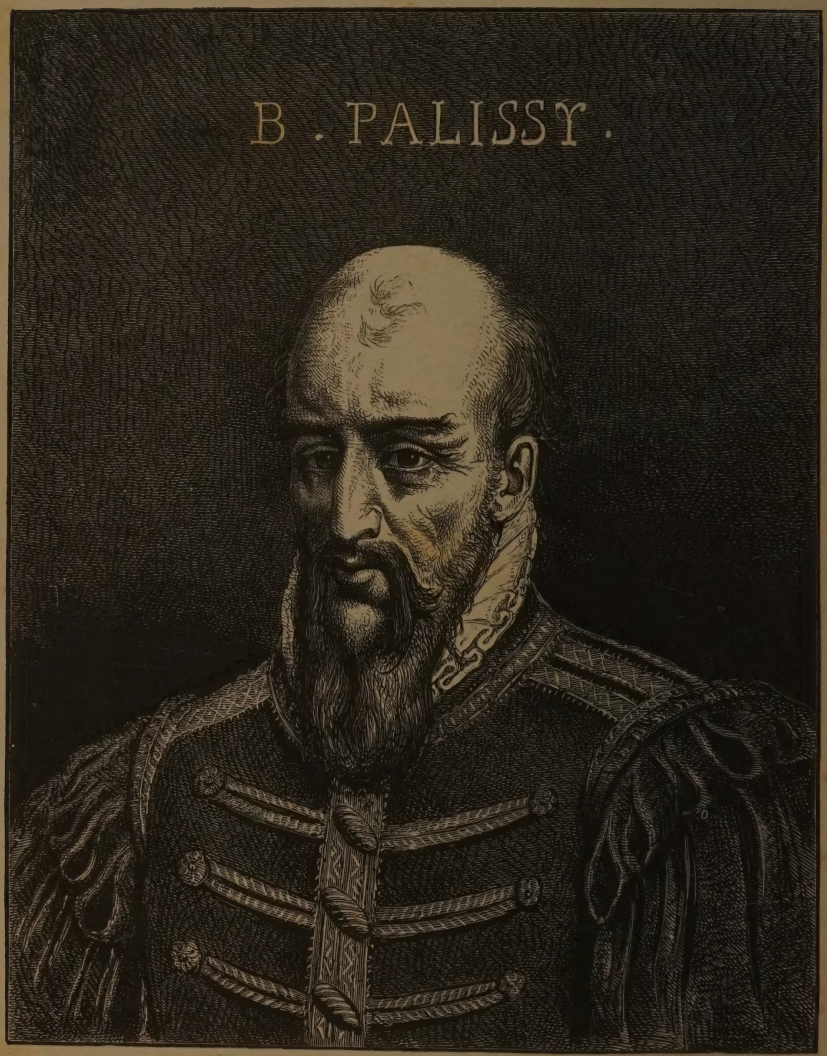
1869.



BERNARD PALISSY.

(From a Painting of the time in the Hôtel de Cluny.)

Frontispiece.

CHEFS-D'ŒUVRE

OF THE

INDUSTRIAL ARTS.

BY

PHILIPPE BURTY.

POTTERY AND PORCELAIN, GLASS, ENAMEL, METAL,
GOLDSMITHS' WORK, JEWELLERY,
AND TAPESTRY.

ILLUSTRATED.

EDITED BY

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PREFACE.

In editing this interesting and comprehensive work on the Industrial and Ornamental Arts, as well as in revising the translation and comparing it with the original text, I have endeavoured to confine myself as much as possible to a correct interpretation of the terms employed in the several Arts, and to describe the *modus operandi* of each manufacture in such a manner as to be intelligible to the English reader.

I have also purposely avoided any interference with the ideas or sentiments of the author, or his opinions on the various subjects he passes under review; but when any matter has called for especial notice, a foot note has been added.

W. CHAFFERS.

19 *Fitzroy Square, London.*
February 20, 1869.

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CERAMIC ART.

CERAMIC ART.

Of all those kinds of industry which decorative art has ennobled, the fictile or ceramic is that which man has most closely associated with his own existence. The indications with which it furnishes the historian and the critic are, therefore, the most comprehensive, and at the same time the most particular. The Polish numismatist, Lelewel, wrote, when in exile, to a friend who had submitted to him a plan of historic studies in connection with earthen vases: "The light thrown by art upon pottery of the commonest kind may be as serviceable as language itself in promoting our knowledge of the origin of races, their military expeditions and commercial relations." This statement is perfectly accurate. It is the more interesting from the fact that materials abound for the study thus recommended, and that the earth is a museum of which the cases have scarcely been opened as yet,—much less inspected. What surprises await us! We have had under our eyes, we have held in our hand, we have examined with that curiosity which attaches to whatever has existed in the early days of humanity, a fragment of pottery, only very little posterior in date to the last deluge. It is a little pot of greyish earth, covered with a black coating; the vertical sides of it must have been shaped by the hand, and not by the wheel, for they bear striated traces of the pressure of a human finger. This pot has been baked by fire, and not simply by the heat of the sun, for it was found (not indeed alone) in a peat bog in the department of the Aisne, at Saint-Simon; and had it not been

subjected, no matter how rapidly, to the passage of fire which renders clay indissoluble, it must have been dissolved by the moisture of the soil, like a soft paste. It was found amidst the remains of animals, one of which, the *Castor fiber*, is extinct; the other bones belonged to the stag, the otter, the pig, the roebuck, the pike, and the curlew. From the co-existence of these bones with the pottery found amongst them, we may assume the establishment of a stationary population of hunters and fishers.

The jawbone of an antediluvian man has already been discovered; possibly antediluvian vases may yet be discovered. The invention of Ceramic manufacture is so evidently coeval with the dawn of civilization, that the annals of mankind have passed it unnoticed. Cain built a city, and called it after his eldest son Enoch. Now, as the remains of those cities that are strewn over the soil of Syria and Mesopotamia are, for the most part, vast masses of bricks dried in the sun, it is more than probable that Enoch was built of similar materials.

Here, then, strictly speaking, from the Biblical point of view, we are presented with specimens of antediluvian Ceramic industry. The necessity of keeping water pure and fresh must have been more sensibly felt than any other by pastoral tribes. The man who lived by the banks of rivers had only to kneel at the brink, and scoop up the water with his hand. The huntsman found about the forests springs and brooks, and flowers filled with morning dew, and trees from which aromatic juices might be extracted by wounding the bark. But to the nomad population earthen vases were absolutely necessary, either for drawing water from the well, or storing it in the tent, or for preserving from the sun's devouring heat the provisions of the caravan.

The impress of a footprint in the soil, hardened by the sun, filled with water by the storm, and then converted to a cup in which small birds would dip their beaks,—might not this have suggested the idea of a vase, and given birth to the first potter?

The general history of Ceramic art is entirely new; but the minds of its students have been so well prepared for the reception and treatment of its materials, that in less than ten years it has made the most rapid progress; and at present it is by the abundance of documents that we are embarrassed.

In France, especially, the movement is most remarkable. The re-

action towards the end of the eighteenth century, pushed to its extreme by the classic school of David, had brought into fashion the so-called Etruscan vases; they were confiscated by the *savants*. The classic terra-cotta made us forget the native pottery. The description of a sacred scene, the rendering of an inscription, the assignment of a name, excluded all other claims on attention. People collected antique vases, not for the pleasure of the eyes, or the decoration of the chamber, but for the satisfaction of erudition. Under the first empire, too, white porcelain had all the housewives and housekeepers for its champions.

In these later years artists who had ended their apprenticeship, and who visited for their pleasure Normandy or the forest of Fontainebleau, used to buy from their peasant hosts in the villages and country towns, Rouen dishes of radiant decoration, and Nevers plates with grotesque or buffo designs. This vulgar taste, first laughed at, was eventually adopted so widely that a sixpenny *assiette à coq* is now worth sixty francs! In the meanwhile, amateurs and traders of taste had brought from Italy dishes to which the potters of Majorca and Urbino had given the grand style of Oriental art, or of the fine periods of Italian art. People began to admire the changing hues of the metallic lustres, the free and bold attitude of the figures, and became at last so enthusiastic as to pillage even the apothecaries' shops. Closer relations with China, Japan, and Persia brought into the market new food for the ever-increasing curiosity of the public. The success of those printed vessels with expressive outline, those vases with long-clawed dragons twisting round their sides, those deep dishes with pinks and carnations blowing in the hollow of them, began to disturb the souls of the disciples of the old classic school, and it is from this return of taste to the Oriental porcelain that we may date all serious discussion concerning the principles of decorative art. At last, the eighteenth century having reconquered the ground it had lost, Dresden figures and Sèvres services were appreciated for their refined gallantry and elegance.

Thus arose the wish to learn the history of all that which had come to grace with so much harmony and colour the shelves of studios and the cabinets of *salons*. On all sides archives began to be searched, travellers questioned, and potters encouraged to study Ceramic art; and now, indeed, we are beginning to be altogether overwhelmed by the deluge of monographs inspired by the legitimate claims of ancient

provisional centres, classification according to country, epoch, or the special character of collections, public and private, and the number of imitations attempted in every direction and often carried to perfection.

But let not the reader suppose that we are about to leave him in the labyrinth without a clue. We have read, classified, and consulted on his behalf all that has been written, classified, or exposed of late years as regards Ceramic art; and it will be our endeavour, not indeed to complete his education in respect thereof, but to bring under his notice certain points which can be easily studied, and which will furnish him with a key to all the rest. For, though it is well that the museums should collect specimens of all kinds of pottery, in the twofold interest of art and manufacture, and an excellent thing that amateurs should vie with each other for the perfect products of Persia or Italy, Rouen or Nevers, Moustiers or Delft, yet this faïence-mania must not be allowed to obliterate every subject of examination but that of fracture and trade marks.

We shall devote three chapters to the mention of the most important and best-known works of Ceramic art. One will be devoted to terra cotta, and will specially treat of the use that has been made of it by sculptors; the second will treat of enamelled faïence, and will narrate the personal history of the greatest artizan that France has to boast of—Bernard Palissy; finally, we shall rapidly review the *chefs d'œuvre* of Oriental and European pottery.

The favour of the public for Oriental Ceramics, and those of the Renaissance and Eighteenth Century is not a mere infatuation. It is a very legitimate enthusiasm for a brilliant and sound material, the employment of which for external decoration must justly increase its importance, and of which the daily use imposes on societies as polished as ours, obligations of research as regards ornamentation and form, which are, in some sort, of general utility. We may judge of the taste of a people for the arts exclusively from the dishes and vases which it employs for daily use. We shall therefore not omit to notice the attempts, so worthy of interest, which are now being made in France and England to restore to decorative Ceramic art its ancient splendour. A brief mention of centres so important in past times as Rouen, Nevers, Marseilles, Moustiers, Strasbourg, will suffice to show how thoroughly national is this branch of industry.

TERRA COTTA.

The art of bas-relief invented at Sicyon by an impressionable father (*'père sensible'*) —The Indian Prince Sâtiavan—A Greek potter invents the process of moulding—The tombs, antefixæ, and friezes of the Campana collection—The statuettes of Cyrenaïca—Florentine *cantatrice*—The medallions of Hampton Court and the hôtel of Scipio Sardini—The *jardiniers galants* of the eighteenth century—The Bacchanals of Clodion—The use to be made by our sculptors of terra cotta.

TERRA COTTA.

WHEREVER men have discovered plastic clay, that is to say a rich unctuous earth, easily diluted or tempered, and which, when once dried, either by evaporation in the shade, or the rays of the sun, or the heat of an oven, is durably firm to the touch, they have invariably made use of it to model vases, or idols, or materials for roofing or building. Invariably also they have traced upon it more or less the same decorative forms—semicircles, straight lines, or zig-zags.

The Greeks, who mingled fable and history with a singular charm, thus account for the invention of Ceramic art applied to the representation of the human figure—that is to say of bas-relief, and bust, and statue—"It is said that Debutades, a potter at Sicyon, was the first who attempted to shape images out of the earth he made his pots of; and this by means of a daughter of his, who, being in love with a young man, drew with a coal, by candle-shade, on the wall, the profile of her lover's face in order that she might always be able to contemplate his features when he was absent. Seeing this, the father filled up the outline of the said features by plastering the wall with clay in conformity with the profile traced upon it; and having perceived that by this means he had produced a certain form, he put it to bake with his pots." It is not, however, to the Greeks that we must attribute the first attempts at modelling and moulding; for the statuettes of divinities in earth dried or baked, painted or enamelled, which are found all over the globe, amongst the most savage tribes as well as in the oldest Egyptian sarcophagi, establish the general existence

of an art which no people can claim the invention of. An artist in earthen works, far older than Debutades, is mentioned in the Mahâbhârata, a Sanscrit poem, so richly descriptive, so florid, so solemn, that the perusal of it seems to carry us away into the forests it describes, filled with lofty trees, covered with flowers, traversed by the flight of peacocks, inhabited by anchorites, and bathed by torrent streams. Sâvitri—this is the name of the heroine from whom this chaste and touching episode derives its title—Sâvitri falls in love with the son of a deposed king. "He still possesses excellent horses, and he loves them so well that he fashions them out of clay; he also paints horses

ANCIENT GALLIC POTTERY.
(Found in the Vendée.)

of many colours." This artist, who doubtless lived long before the heroes of the Iliad, was called Sâtiavan.

But under this fable of Debutades, the Greeks implied a critical statement which is strikingly true, viz., that the real inventor of an art is he who first practises it artistically. The story of Debutades, therefore, is true. He used, as artist, what those before him had used only as children or barbarians. His alto-relievo, for this is probably what is implied by the text, so greatly impressed his contemporaries that it was placed with the bronze statues of Corinth, and there remained till that city was destroyed by the Consul Mummius.

Another Greek potter—this one was a practician—invented the art of moulding; that is to say of obtaining any number of copies from an original by means of soft earth inserted into a properly-hollowed receptacle. It is to this art, which comes strictly within our programme of art applied to industry, that we owe our knowledge of all

the charm and force, the fulness and refinement, which antiquity lavished upon its statues and the exterior decoration of its monuments. The museum of Napoleon III., in the Louvre, will furnish our readers with a vast field for exploration quite as well as a journey through Greece or Italy.

The most important object is a tomb, said to be Lydian, which was found intact in Etruria; two personages, a husband and wife, are extended upon it in a recumbent position, leaning on their elbows; their crooked, turned-up chins, prominent cheek-bones, Chinese eyes, head-gear, and pointed slippers, denote an Oriental origin which the learned have not yet been able to define precisely. On other sarcophagi of a much later date we also find couples or isolated figures reposing, not like our seigneurs of the middle age, reposing in sleep with clasped hands and stretched out legs, but leaning on the elbow, as though death were an invitation to a funeral repast or philosophic conversation. The greater part of these are of trivial workmanship; the neck is detached, showing that the potters had ready-made bodies on hand, and that the relatives of the deceased must have hastened to the work-shop, in the last moment, to order a head resembling more or less that of the departed.

Much more interesting than these funereal figures are the antifixes and bas-reliefs which were displayed in friezes along the façades of the Roman houses. It will be observed that the same subject was frequently repeated. The Curetes, clashing their bucklers to drown the cries of the infant Bacchus; naked and muscular vintagers treading, in time to some song, the grapes in the wine-press; two young satyrs standing on tiptoe to reach the vase of a fountain too high for their lips; or the combat of Apollo and Hercules disputing for the prophetic tripos of Delphi; Hercules discovering the infant Telephus, suckled by a goat in a grotto overshadowed by a tree; or, further on, bearing a bull on his shoulder and followed by Autumnus, or taming the bull of Marathon; the marriage of Thetis and Peleus, a scene of touching chastity and grandeur; or again, Theseus discovering his father's armour under a stone.

Sometimes the treatment of the subject rises into the highest emotional expression, and the face and figure of Helen, driving with her own hand the car in which she returns with Menelaus to her palace, expresses a profound discouragement. A Penthesilea, who falls dying

into the arms of an Achilles filled with compassion, is also one of the most affecting of these subjects. We have already called attention to the frequent repetition of the same subject. It is in such repetition that the genius of the artists who modelled these bas-reliefs for so modest an employment is most strikingly evinced. In every case the scene is slightly modified, the muscular detail changed, the gesture

BACCHANAL FRIEZE.
(Terra Cotta. Campana Collection.)

sharpened or softened, the expression aimed at, more tender, or more haughty. They are so many editions of the same text, revised and corrected by ingenious editors.

We shall not dwell upon those bas-reliefs which represent foliage or fanciful designs. In designs of this kind, as also in automatic knowledge, and the arrangement of drapery, the Greeks are superior. The Renaissance has in vain endeavoured to surprise the secret of that sovereign grace, that sweetness, combined with gravity of expression, and has too often degenerated into mannerism.

For frankness and originality, the ornamentation of our Gothic cathedrals is all which the decorative art of the Western world can venture to place beside those bas-reliefs, which were coloured, or of which at least the figures were relieved by a blue or red ground. Cicero calls them types "typi" when he writes to his friend Atticus to send him some from Athens for the adornment of his atrium. The

ORNAMENT OF A ROMAN HOUSE.
(Terra Cotta relief. Campana Collection.)

finest specimens have been found at Ardea, ancient capital of the Rutuli, which was situated not far from Rome and Tusculum. A mould has also been found there.

But what surpasses even these bas-reliefs, in freshness, homeliness, and charming simplicity, is the little antique statuettes, and especially those called Cyrenaïc. The greater part of them still bear traces of colour. Doubt has long been felt as to the purpose to which these statuettes were applied; for they are found in great numbers, though, unfortunately, not the finest of them. It is now thought, that in all cases where they were not native offerings, such as those little waxen figures which modern piety still places in chapels of the Virgin, they

were simply used as objects of art, for household ornaments, to charm the wandering eye. The young woman at her toilette, which belonged to the Pourtales collection, is quite as precious as an antique in bronze or marble. Mr. Mercuri has spent a day in endeavouring, with his finest graver, to render the dove-like softness, the simplicity in pose and gesture, of this young lady bent over the mirror. Of the same kind is the head of a young Greek—some shepherd of Theocritus. That fine, panting mouth, is it not made to blow through the reeds of the pastoral pipe; and that little straw hat, scarcely covering the brow, does it not seem there only to be thrown off when the wearer flings himself at length on the fresh herbage in the beech trees' shade?

GREEK SHEPHERD.
(Cabinet of M. Thiers.)

One movement has taken hold of the artists who modelled these figures. It is that of the dancing girl, who springs forward, the bust slightly bent back, the leg advanced, and rustling the folds of her robe; or that of the woman leaving the bath, who wraps around her with a chilly gesture a long linen covering. These little statuettes were placed in tombs with the dead. We find some very homely ones in the tombs of children—dolls with articulated arms; polichinellos with parrot noses; dogs, cats, cocks, fish, &c. It is death telling the story of life: these objects, that have lain in the little hands of children and young girls, are the same as those which, to this day, amuse our own childhood. The sketches and remains of temples, on the other hand, speak to us only of a political and social life, the features of which are unfamiliar to us.

In the thermal resorts of the rich Roman invalids, and notably near Vichy, completely organized factories for the moulding of these statuettes have been discovered. But these are almost shapeless, and when we find a mould which still gives good impressions, we may be pretty sure that it has been taken from some Greek or Roman object, brought there in his baggage by some wealthy amateur. Pliny speaks of entire statues in terra cotta; none such have come down to us.

A GIRL AT HER TOILETTE.

(Greek terra cotta. Pourtales Collection.)

But our collections possess casts of medallions, doubtless employed for female ornament, the impression of which is very successful, and often gilt, to imitate more completely the originals.

The Italian Renaissance, in its turn, was enthusiastic about busts and statuettes in terra cotta. If we here mention the name of the Della

FLORENTINE SINGER.

Robbias, it is only to say that we shall hereafter have special occasion to notice more particularly those artists who, by applying the enamel of *faïence* to terra cotta, invested it with a peculiarly decorative character.

In the present place let it suffice to record the fact, that after a long period of undeserved indifference, the terra cotta busts of the Italian Fifteenth Century are now sought after with eagerness. At the *Exposition rétrospective*, organized in 1865, at the Palace of the *Champs-Elysées*, by the central *Union des Beaux Arts appliqués à l'Industrie*, there was an admirable statuette of a young Florentine woman, which attracted every amateur. She is standing upright, in a robe of brocaded satin, which still bears traces of gilding; she is singing aloud the music she holds written in her hands. It is the work of an artist of genius, whose name is unknown, and is probably the portrait of some princess of that court of the Dukes of Urbino, so distinguished for polished gallantry, literature and art.*

But the sixteenth century did not merely abandon to sculptors the use of terra-cotta, which it also employed for the modelling of entire altar-screens. We shall return, *àpropos* of the Della Robbias, to the subject,—the figures in alto-relievo which those artists inserted in medallions. One sees in the façade of some of the numerous interior courts of Hampton Court, large medallions of terra-cotta, from each of which the head of a Roman emperor looks out bold and vigorous from a heavy laurel wreath. It is said that they were sent by Leo X. to Cardinal Wolsey. In the hôtel of Scipio Sardini, which is used at present for the general management of the Paris hospitals, there exists an entire gallery, which has been spared by the indifference or caprice of modern architects; and under the arcades the heads of princesses and heroes may also be seen. Nothing can better harmonise with brickwork than those tints and tones of reddened earth, nor anything be more ludicrous than that kind of ornamentation which consists of moulded reliefs that invite the play of light and shade. Our modern

* We have in this translation omitted the description of a bust in terra cotta of Jerome Benivieni, recently purchased as the work of a Florentine artist of the fifteenth century by the director of the Louvre, but which is now known to have been executed by M. Bastianini of Fiesole, in 1864, for M. Freppa of Florence, who paid him the sum of 350 francs; it was sold to a dealer in Paris for 700 francs, and afterwards, in a public sale by auction, adjudged to the Comte de Nieuwerkerke for the sum of 13,600 francs, and is now in the Imperial Collection. The deception was noticed in the "Chronique des Arts," of the 15th December, 1867, and in the present year M. Foresi has published a pamphlet entitled "Tour de Babel, ou Objets d'Art faux pris pour vrai," with the declarations of the sculptor Bastianini, and all the parties concerned. In this book many other pseudo antiques are traced to the same studio.—Ed.

THE TOILETTE OF VENUS.

(Terra cotta bas-relief, by Clodion. Belonging to M. Carrier Belleuse.)

architects only venture to employ it upon structures of a common kind—in stable-yards, and the outer courts of country houses, for example. They are wrong not to be more courageous.

The eighteenth century degraded the art of sculpture in terra cotta by a ridiculous employment of it. It animated its parks and gardens with groups of figures dressed or painted *au naturel*. Things of this kind were in existence only a few years ago. Beside some piece of water you used to perceive a washerwoman, with her washing-beetle always in her hand, and never beating anything. A gardener is musing, with his elbow resting on the handle of his spade. An *abbé galant* pretends to be reading in his breviary, and is eternally ogling a shepherdess, whose sheep have only one ear and three legs. This notion of transforming a fine woodland or grassy park into a cabinet of earthenware figures, is one of the most shocking improprieties of that epoch.

As we are unwilling to remain under so unpleasant an impression of an age that we greatly esteem, we have here reproduced one of those groups, modelled by Clodion with indefatigable vigour. Those little puffy Loves, those distempered bacchanals, those satyrs, walking with muscular backs bent under the menace of a cloven-footed infant, intoxicated by a couple of crushed grapes, these are the last *chefs d'œuvre* of terra cotta. They have often been compared, for their caprice of treatment and vivacity of effect, to the etchings of painters. Might not this toilette of Venus be just as well signed Fragonard *sculpsit?*

Our modern society, fastidious and with but little indulgence for the art that *smiles*, will it ever see those pleasant days restored? Let us hope so; and, indeed, applause has been accorded to an artist who has lately exposed some models of an easy and pleasing composition, and some busts of great vivacity. Earth can be forced into a mould, and the sculptor then can and should, while it is yet moist and malleable, retouch and give it a new surface. Such proofs have, for this reason, more individuality and rarity than the proofs of a bronze, which is only retouched by a professional carver. Terra cotta has less rigidity than bronze, less uniformity than marble. Its tone is warmer, and its surface, imperceptibly grained, has none of those reflex lights, the great effect of which is dependent upon large surfaces. It is eminently a material for objects of familiar character. Pajou and Houdon have

shown us what sort of style can be attained in terra cotta. Let our artists use bronze for heroic, marble for ideal statues, but take the clay and the modelling-tool more often in hand to reproduce the features of their contemporaries, or embody some pleasing fantasy.

ENAMELLED FAIENCE.

Glaçure, enamel, glaze—Greek vases—A supper *à l'antique* at Madame Lebrun's—Ornamentation and employment of Greek vases—Roman pottery at Rome and in Gaul—Mediæval and modern enamelled pavements—*Faïences d'Oiron*, called "Service de Henri II."—M. Benjamin Fillon discovers the secret of their origin in the neighbourhood of Fontenay-le-Comte—Gouffier family—Hélène de Hangest, François Charpentier, her potter, and Jean Bernart, her librarian.

Majolica comes from the island of Majorca—The Alhambra vase—Valence manufacture—The secret of lustres and irisations.

Luca della Robbia—His first works at Florence, as architect, sculptor, painter and decorator—Andrea and Girolamo della Robbia—Modern attempts.

Origin of Italian majolica—Its success in Italy and France—Faenza manufactures—The book of Piccolpasso, the potter—Book of Giambattista Passeri, the antiquary—Manufactures of Pesaro, Castel Durante and Deruta—Metallic lustres of Fr. Xanto, and Maestro Giorgio—Existing manufacture of the Marquis Ginori—False amateurs.

Bernard Palissy—His birth—His first book, "Récepté véritable"—His stay in Paris—Second book, "Discours admirables"—Story of his studies and vexations told by himself in the "Art de Terre"—His portrait—His grottos and other works—His tragic death—His imitators.

Nevers Faience, from Louis, Duke of Gonzaga, to the present day—Practical notions about the art of faience—Rouen Faience, its triumph and decay—Faiences of Moustiers, Marseilles, Rennes, &c.

Modern attempts—Minton and Lessore—Enamelled lava—Faiences of Persia, India and Rhodes—A. de Beaumont—The brothers Deck, &c.—Printing on faience.

Grès de Flandre and terre de pipe—Ziegler.

ENAMELLED FAIENCE.

Almost immediately after the invention of Ceramic manufacture,—properly so called,—that is to say, of terra cotta, the application thereto of glaze or colouring enamels must have improved and given to it a peculiar physiognomy.

What we term *glaçure*, is a light varnish, which enlivens and harmonises the porous surface of terra cotta. In its simple state it is a mixture of silex and lead, and in this state it is transparent, as we find it on antique vases: when vitrifiable, and mixed with tin, as in the case of majolicas, it is called enamel; and when of vitrifiable and earthen substance, such as can only be melted at the temperature required for the baking of the paste itself, it is known as glaze, or *couverte*, and can be identified in the Persian faiences and Flemish stoneware.

The bricks brought from the banks of the Euphrates are enamelled. The Egyptians employed glaze, and the little figures they have left us of gods or animals in turquoise blue, or sea-green, are cleverly coloured pastes of the greatest antiquity.

The colours are obtained by the mixture of metallic oxides with the flux or emollient used after the baking, to make them adhere completely to the surface of the clay. The palette of a Chinese ceramist which we may take as our model, for it contains all that the decorator can possibly desire in the way of brilliancy and diversity of tone, is thus composed: oxide of copper, for greens and greenish blues; gold, for reds; oxide of cobalt, for blues; oxide of antimony, for reds;

arsenic and stannic acid, for whites. The intermediate tones which may boast of having fascinated European chemists, have had the effect of suggesting to Sèvres the textual copy of pictures, an exercise of ingenuity which cannot possibly be the legitimate aim of this kind of art.

The artists of antiquity, who were in constant relation with Asia Minor, cannot possibly have been ignorant of the secret of the application of enamels or colours to clay. With the exception, however, of some fragments of vases, one of which represents a comic mask, enamelled in yellow, black and red, Ancient Greece and Italy have bequeathed to us nothing which can properly be called painted *faïence*.* The Greeks possessed a surpassing sentiment of harmony. Thanks to a concourse of peculiar circumstances—to their Asiatic origin, their luminous climate, the beautiful outlines of their landscape, their philosophy, their social constitution, their intellectual superiority to the surrounding populations, and even the youthful virility to which humanity attained in their time, theirs was the unrivalled privilege to enjoy for a century and a half that serenity of soul to which the creation of great works is a natural instinct. Their pottery, no less than their sculpture, reveals their exquisite taste and the perfect equilibrium of their life. Simple and noble forms must have sprung up under the hand of the potter, like flowers from a vigorous stem. Destined for the adornment of temples, or the repasts of a cultivated and refined society, for the prizes of games and contests, or the decoration of tombs, these vases were decorated naturally with mystic or bacchanalian scenes, sacred fables, and figures of charioteers and gladiators.

The Greek colony which established itself in Etruria, brought with it, scarcely modified at all, the stencilled outlines which had previously been traced at Athens, or elsewhere in Greece. It has even been ascertained that the Etruscan potters had ceased to understand the mystic sense of the allegories or historical facts, the representation of which they continued to repeat for centuries, to meet the demand of their Italian purchasers.

* It is, doubtless, in allusion to some fresco that this curious passage of Pliny refers: "When Murena and Varro were ædiles, they caused to be brought from Lacedæmon the whole of a brick wall for the adornment of the market-place on the election day. So rich was the painting on this wall, and the more admirable and excellent the painting on it, the more wonderful was it how the wall could have been removed and transported entire to Rome."

Works of immense erudition have been published in Germany, Italy, England, and France, on ancient fictile art, or rather on Greek and Roman vases. What has chiefly occupied the writers of these works is the age of the vases, their nationality, the meaning of the sacred, profane, tragic, comic, or household scenes that adorn them, and the names of the gods, heroes, and other personages inscribed over the figures represented thereon. They have done their utmost to explain the use and character of the objects which these vases represent, such as beds, chairs, stools, tables, stuffs, jewel-caskets, arms, implements, sacrificial instruments, and altars. They have helped us

VASE WITH BLACK GROUND.
(Etruscan manufacture.)

to resuscitate the manners and customs of antiquity, and have even succeeded, by the classification of the purest forms, the noblest ornaments, the best-composed scenes, in establishing the chronology of the rise and fall of ancient Greek or Italian art. Unfortunately, all these results are presented in a phraseology bristling with Greek and Latin, and in bulky folios of most unattractive appearance.

It is much to be wished that benevolent *savans*, like the Baron de Wytte for example, should do over again, for minds of ordinary capacity, what has thus been done only for the learned. It is impossible

to contemplate without a sort of superstitious reverence all this industry, ennobled as it is by the hands of so many great artists, and the actual use which has been made of it by the whole society of antiquity. How often, in inspecting the treasures of some museum of ancient art, is one not tempted to ask one's self, if this be not perhaps the very cup in which Alexander sipped to try his physician, or that vase of red earth be not one in which Plato may have dipped his hands when he sat down to the banquet ?

The study of antique vases dates especially from the last years of the seventeenth century. A hundred years later it was all the rage. Madame Lebrun gives us in her "Mémoires," which would have ensured her the reputation of a clever woman, even if her brush had not made her famous, an account of an archæological feast, the idea of which was suggested to her by a perusal of the "Voyages en Grèce du Jeune Anacharsis," by the Abbé Barthélemy. "When I came to the place where, in describing a Greek dinner, he explains the way of making several sauces, I immediately sent for my cook, and set her to work at once. As I was expecting some very pretty women among my guests, I took it into my head that we would all adopt Grecian costumes. My studio, full of draperies of all sorts for the adornment of my models, supplied a sufficiency of garments, and the Count de Parois, who was then lodging in my house in the Rue de Cléry, had a beautiful collection of Etruscan vases. I told him of my scheme, and he brought me a number of antique cups, bowls and vases. I made my selection, and placed them on an uncovered mahogany table. . . . ." The guests arrived; Madame Chalgrin, the daughter of Joseph Vernet, Lebrun-Pindare, to whom was allotted a wreath of laurels. Monsieur de Parois dressed himself up as Anacreon. . . . . "My daughter," she adds, "who was charming (as is proved by her portrait at the Louvre), and Mademoiselle Bonneuil (who afterwards, under the Empire, became the beautiful Madame Regnault de Saint Jean d'Angely) were exquisite to look at, each holding up a very light antique vase, and preparing to offer it to us to drink from." It is only the eighteenth century which had wit and humour enough to laugh with such grace at the mania for the antique.

Under the Empire it was proposed and even attempted to introduce again, for common use, all the old shapes for utensils and cups, as well as their austere style of decoration.

But the fact that they were no longer in accordance with the manners, customs, and fashions of that period was quite forgotten. In a sunny climate, full of warmth of colouring, among interiors of houses painted with sharp and decided tints, amidst people who wore purple cloaks or light-coloured tunics, this style of decoration, with a red or a black ground, formed a repose for the eye. But, coming from the hands of our porcelain manufacturers, it appeared dull and hard; in the hands of decorative painters, who could neither understand nor perceive the elegance of figures expressed only by a neat and distinct outline, the heads became distorted, and the attitudes as stiff and angular as those of a lay figure. Besides this, the style and shade of colouring became exaggerated, and notwithstanding the habit of taking exact copies of statues and bas-reliefs, the examples of coloured earthenware left to us by Athens and South Italy were quite forgotten.

These are covered with gilt ornaments, sometimes in relief, which breaks the monotony of a mere silhouette. We hear of certain bowls at the bottom of which, while the earth was still in a soft and impressible condition, the potter cleverly applied a mould of the Syracusan medallion, which is the purest example of antique numismatic art. The most celebrated of these vases ornamented in relief is that of Cumæ, a hydria or ewer, which at one time would have become the property of France, had not Russia selected it in the Campana Collection before France had made known her mind on the subject, and it is now one of the ornaments in the Hermitage Museum at St. Petersburg. The lower part of it is fluted, and the upper is composed of a bas-relief coloured and gilt, consisting of ten figures, the principal of which are Triptolemus and Ceres; in another frieze, on the most projecting portion of the spout, are walking figures of panthers, lions, dogs and griffins; round the mouth of the vase is wound a wreath of gilt myrtle-leaves. The figures are dressed in bright-coloured garments, blue, red and green, and where, in some of the heads, the gilding has been rubbed off, you can perceive the delicacy of the hand which worked it to be as great as that with which a cameo is executed. It is called the Cumean vase, because it was originally found in the necropolis of that city. Far from having the horror that our modern professors express for polychromic art, the ancients, on the contrary, made it contribute to the decoration of

the exterior as well as the interior of their dwellings: there is absolute proof of the fact that the Greeks coloured their marble statues, as did the Romans their bronze busts.

The memorable discoveries in the tombs of Vulci in 1828 and 1829, tended greatly to modify the direction that the study of ancient Ceramic art was taking. The report of it by Professor Edouard Gerhard, of Berlin, in 1831, made a great sensation in the scientific world. In the present day the excavations at Nineveh, at different times by Messieurs Botta, Flandin, Layard, and Place, showed the

THE VASE OF NICOSTHENES.
(Museum of Napoleon III.).

close contact of the Assyrian art with that of the Greek potters. In 1844, Charles Lenormant estimated the number of painted vases discovered in the space of two centuries to be no less than 50,000. Since then scarcely more than 2000 or 3000 have been collected. The Renaissance did not trouble itself much about them, except with a view of imitating some of its rhytons or ewers without retaining their stiffness; at any rate some are to be traced on the sideboards and cupboards in the houses of the wealthy.

With the exception of the Panathenaic amphoræ, offered to the Greek conquerors of the arena, full of the oil of the olives sacred to Minerva, one can scarcely venture to speculate on the character and intended use of the great number of different articles which have descended to us, and which, judging by the degree of finish to which they were brought, must have cost vast sums of money to complete. The black vases were doubtless for common use among the servants; the others can only have been designed for ornament. They were buried beside those who had owned and cherished them, but it is seldom that they are found to contain human ashes.

Some of the antique vases have signatures upon them. Nearly a hundred names of artists have been revealed; but a whole series of vases, the figures of which are black on a white ground, are signed by a potter named Nicosthenes, whose taste, whether as a manufacturer or a decorator, must have been exquisite. The vase, which is now in the possession of M. de Blacas, was found at Agrigentum. The one here represented, together with all those of the Campana collection, came from Coire.

The paintings are generally of Bacchanalian subjects; this was supposed to excite the ardour of guests: also representations of Olympian divinities, the labours of Hercules, or the Trojan War. Sometimes the subjects were borrowed from the theatre, from the thousands of incidents of common life, such as bathing, hunting, dancing, dressing, the repast, and funereal games, the latter of which belong chiefly to the last period in which the art of painting on pottery flourished.

Inscriptions scrawled with singular carelessness, as if the artist wished to keep the subject a secret to himself, consist of the names of mythological personages, sentences, and friendly or admiring exclamations, "Oh! beautiful child!" or, "Oh! what a handsome horse!" The Renaissance imitated these inscriptions in the articles of majolica which it was customary to offer on the occasion of a betrothal.

The "hydria" here given belongs to the latter half of the seventh century before Christ, and was modelled by the Corinthian potters of Demarates. It is remarkable for the meanders and scrolls, the gadroons in the archaïc style, and for the checkered zone which forms, as it were, a framework to the whole. The inscriptions on it are greatly ob-

literated and scarcely legible, but the figures clearly represent the parting between Hector and Andromache. For some centuries all the ornamented potteries of the Roman world were produced by the colonists or wandering artists of Greece.

At one time they were esteemed as the greatest luxury, and were made use of even as an instrument of electioneering corruptions.

HYDRIA IN THE CORINTHIAN STYLE.
(Museum of Napoleon III.)

Quintus Aponius was fined for "bribery and corruption," for having presented one, whose vote he desired to win and make sure of, with an earthen amphora or jug. A tragic actor, named Esop, gave sixty crowns for one plate or dish. The Romans, always more practical than artistic, were in the habit of imparting a character of strength and usefulness to the pottery in daily use.

Most of our southern provinces have retained the original forms in their jars for oil and wine. In a tour through the Pyrenees, at

Bagnères de Bigorre, we have observed women going to draw water with large earthen amphoræ balanced on their heads, of the same shape as those which were used by the slaves of Atticus or Cicero.

The Ceramic history of Gaul will be found closely to resemble that of all other countries in their infancy, when the great and original idea of Lelewel shall have been carried out, of organizing some museum where the products of every nation's civilization may be placed in juxtaposition for comparison.

FRAGMENTS OF ROMAN POTTERY.
(Found in Vendée.)

The above bowl is a type of most of the Gallo-Roman pottery found in Paris and the provinces, whenever excavations bring any antiquities to light. This one was found at Jart (in Vendée) in a tomb of the first half of the third century. It bears in relief the name of Paternus, its supposed potter. In many cases the figures are cast separately and then fastened on. The earth, which is very fine and slightly mixed with ashes, is generally red, sometimes black. Some of the potteries discovered in Poitou reveal a very curious system of ornamentation, which consisted in placing natural

leaves of plants or trees on the inside of the mould when still in a soft and semi-liquid state, so as to leave not only the impression of their shape, but also that of their veinings.

During the middle ages the shapes were, for the most part, of a degenerate pattern. The history of the pottery of this period would be merely a local one. The most remarkable application of terra cotta or earthenware, either enamelled or not, consisting of coloured clays inlaid or placed in juxtaposition, so as to present the appearance of tapestry by means of the same contrasts and harmonies, were in the form of floorings or pavements. The enamelled pavement was one of the last manifestations of polychromic sentiment among the ancients; they had already had the inlaid or mosaic style, and that was such a favourite one with them that scarcely any Roman remains are discovered without some vestiges of it. They disliked the large squares of uniform colours presented by our wooden floorings; it seemed to them cold and colourless. Their ambition was to be always walking on floorings blazing with colour, as if decorated with the brightest garden flowers, and even at the door one was greeted with a word of welcome or of friendly warning, such as "VALE!" or "CAVE CANEM!" They themselves had borrowed this custom from the East, as is proved by the vast spaces of tesselated pavement excavated from among the ruins of Babylon, which are covered with figures of men and animals, or inscriptions, the letters of which stand out in white enamel upon a blue ground. Thus it was with Egypt, and also with Spain and Italy. We know the motto inscribed on what is left of the pavement of the Alhambra: "None is strong save God."

It was in the Church, during that twelfth century which was the dawn of our national Renaissance, that tesselated pavement took the place of a mosaic which was both costly and worthless. It was found to harmonize marvellously with the brilliant colours of the ceilings, the pillars and the walls, which shone out in streams of light from the stained windows, and glittered with prismatic beauty in the gold and precious stones of the altars. Such was the vast carpet which was found to be capable of resisting the wear and tear of the constant feet and knee-prints of the poor. Feudalism soon took possession of it, and when horsemen and warriors wore the crests and livery of their lords on their chests, or on their sleeves as badges; when the

coat of arms was painted, carved or woven on the door of the castle, and on the furniture or the hangings, it followed naturally that it should be also reproduced on the floors.

ANCIENT TILES.
(Discovered in the Department of Aisne.)

Pavement then became like a page of heraldry, a fleur-de-lis

rounding its petals, an eagle tightening its claws and spreading its wings, a lion passant, arched, and with pendant tongue, a dolphin with curved back and a crown on its head. Fantastic figures were then introduced in grotesque attitudes, sometimes a stag or a griffin with gaping mouth; now and then a representation of huntsmen with spears or horsemen in battle, fool holding a bauble, women playing the violin, or gipsies performing the scarf dance.

ANCIENT TILES.
(Discovered in the Department of Aisne.)

Until the fifteenth century, black, white, yellow, red, or green, was the only ground-work to this style of decoration. These were quite sufficient to satisfy the artist's love of harmony. Later on, the style became mannered in its aim at refinement. In comparing the specimens of tesselated pavement that are given in a work of Monsieur Edouard Fleury with other examples of decorative art of a

later period, such as iron gates or stained windows, our readers will feel how close the connexion is between them all; how much the architects, painters and sculptors of that time felt the necessity of combining their genius to produce the desirable unity and impressiveness suitable in all public buildings, be they religious, civil, or military. How profoundly national is this period of our history, and what splendid examples should we have now, if these structures had been carefully preserved as were those of the Italian Renaissance!

The potters of the Laonnese province, whence came some very interesting remains of square pavement, were in the habit of using common brick or tile clay, called brown argile. As a raw material, and when passed through the furnace, it is infusible, and becomes of a reddish-brown; when washed and stirred, it changes to a light yellow colour; but if washed and then subjected to violent heat, it takes a bright red tint. To obtain the black, the furnace is heated with alder-wood, which having been steeped in water for a number of months, gives forth a quantity of dense smoke. The white is produced with pipeclay. The enamel consists of lead varnish. After the clay had been sufficiently beaten, and cut into squares of the size and thickness required, so as to receive the coloured earth wherewith to make the figures, the mould, with the required design in relief, was set firmly on it, and the whole was then submitted to the strong and equal pressure of a heavy weight; then the depressions on the surface were filled in with coloured earth, pressed hard, in order that it might adhere closely, and placed in the furnace. Sometimes—but that was subsequent to the fifteenth century—they applied to the pavement which had to be ornamented, when in a soft state, a thin piece of wood or metal pierced with an open design, by drawing a point round the open spaces a furrow was left which was filled in with clay of the desired sort. Afterwards (but it could then no longer be called a process of incrustation), instead of a point a paint-brush was introduced, filling the spaces with vitrifiable colour. It will be observed, from the examples of pavement here given, which are always square, that when placed in juxta-position by fours or nines, or even by sixteens, they formed one large design,—one vast composition, intertwining leaves and multiplying flowers, scenes and devices, in a most graceful manner.

Thanks to the reaction in favour of the French Middle Ages, introduced by the romantic school of 1825, and by the works of Mons.

Viollet le Duc, by the courageous polemics of special publications, such as the "Annales Archéologiques," the eyes of the public have been directed to the decorative art of that period. Artists of eminence were requested to superintend the restoration of those monuments which it was desirable to renovate. It is thus that Mons. Steinheil designed for the Sainte Chapelle the pavement which is represented in our illustration.

Notwithstanding the inspiration he borrowed from a past century in the decorative art, it is impossible for anything to be more original in idea, or more entirely his own production. The example was good; so he followed it. Incrusted or inlaid pavement is to be found in all modern edifices having any pretensions to decorative art; the eye meets with more repose and softness in it than in glazed faience, while it finds more variety than it does in marble. The Ceramic Museum at Sèvres offers specimens of all sorts and of all periods for those amateurs who are desirous of increasing their stock of knowledge in such matters.

This process of incrusting clay, and covering it with a slight glaze, was practised with more or less success and perseverance in all the provinces, and it gave birth to a series of articles, the origin of which has, until these latter years, been an impenetrable mystery, and the original use of which, as much as the rareness of them, excited the curiosity and the envy of all amateurs. I allude to the ware attributed to Henry II., which was wittily denominated "the sphinx and the phœnix of curiosity."

Mons. André Pottier, in the "Monuments Français Inedits," by Willemin, was the first to draw the attention of amateurs to a splendid ewer, then one of the collection of the Baron de Monville. This was in 1839. In studying this peculiar kind both of ware and of decoration, no less than twenty-four pieces of the same family, which, owing to the initial cypher of Henry II. on some of them—C's and H's placed back to back, and interlaced—they were all classed as "the dinner-service of Henry II." Soon after this Mons. du Sommerard, in his album, the "Arts of the Middle Ages," published three of these pieces, which were then ornamenting the Pourtalès and Préault cabinets. The imagination of amateurs and critics became excited; much speculation went abroad on the subject; romances were composed with these for their theme; some insisted that they

5 feet 3 inches

PAVING TILES OF THE SAINTE CHAPELLE.

(Executed after the designs of M. Steinheil.)

came from the studio of a sculptor named Ascanio, the pupil of Benvenuto Cellini; others that they were modelled by Girolamo della Robbia, whom Francis I. summoned over from Italy to decorate the terra cottas of the Chateau de Madrid; others again suggested that they came from Lyons, or from England; later on it was believed that the artist-printer Geoffroy Tory, whose sign was, "The Broken Vessel," had printed in the sides of the flagon some typographic ornaments which resembled niello; then that some Florentine prince had sent them as a present to the husband of Catharine de Medicis.

During this period the number of them increased but little. Even now it has only attained to fifty-four, and we must give up the hope of seeing it increase, for the enormous prices that these pieces have fetched at recent sales have been an affliction to amateurs and dealers, as well as to impoverished heirs. One of the prettiest specimens known, is the bowl that Sauvageot left to the Louvre; it was bought by him for the sum of 200 francs. In 1835 the celebrated ewer of M. de Monville fetched the sum of 2500 francs, which seems a large amount. At the Rattier sale (1859) a salt-cellar sold for 12,500 francs. At the sale of Lassayette (1862) a restored candlestick, with the meanest ornamentation, went for 16,000 francs, and was afterwards sold in England for 18,000 francs, now in the South Kensington Museum; and, finally, at the Pourtalès sale—although the secret had then been sifted—a *biberon* was bought for 27,500 francs by J. Malcolm, Esq., of London.

They were analysed and assimilated by Mons. Brongniart to what is commonly called *terre de pipe*. It is thus that he describes, in his "Traité des Arts Céramiques," the process by which they were made. A close examination of a fragment contained in the Sèvres Museum, shows us that the groundwork of the piece was first made without any sort of relief or ornament. It does not seem either to have been turned, but merely thinly moulded, and reduced to the same substance and thickness throughout by means of equal pressure. This first layer was covered with a very thin coating of the same substance, and on this were placed the ornaments, heads, and the glaze. He even had one copied by some of the more able hands of the manufactory. It is, in fact—but in a refined and more minute way—the same process as that above described with reference to the squares for pavement; neatness of touch was all that was wanted in using the

clay, for colouring, to supply the hollow lines and delicate ribbons here represented.

A catalogue was made of all the pieces of this ware, both in France and elsewhere, in public and in private collections, and also, what was more useful, or at least more publicly practicable, the entire series was copied in chromo-lithography. But still the mystery was undiscovered. The only curious fact was, that all these candle-sticks, bowls, ewers, biberons, salt-cellars, pots for containing wax, &c., were originally found in France, and chiefly in Touraine. The amateur world played, as it were, at that child's game in which exclamations of "You burn!" or "You freeze!" denote the proximity or the distance of the player to or from the given spot. Every one was "burning." That spot was in Poitou, at the castle of Oiron, and thus it was that Mons. Benjamin Fillon found it out by one of those strange chances of which none but clever and learned heads know how to take advantage.

An antiquary one day exhibited to him the two fly-leaves of an old prayer-book on parchment, which had been illuminated with elaborate ornaments and miniatures, by Claude Gouffier, grand equerry to Henry II., as well as his personal friend. One of these miniatures, surrounded by the motto which Gouffier had adopted, and which was also that of Erasmus—*Hic terminus hæret*—with highly ornamented framework round the picture, which represented a rustic repast in harvest time, in July; a young woman is making a sign to a man who is drinking, to prevent his draining to the bottom an earthen gourd. To most people the presence of this gourd would have been but of little importance, but M. Fillon was struck with the yellowish hue of the gourd and the black interlaced ribbons, as well as with the armorial bearings of Gouffier stamped on it. On returning to his province M. Fillon paid a visit to Oiron, the residence of the equerry of France, now in ruins. At every turn he met with scraps of architecture or ornamentation which he found to be in accordance both with the gourd in the missal painting, and with more than one piece of the mysterious set. The minute investigations which he made into the origin and antecedents of the Gouffier family furnished him with so large a handful of incontestable proofs, that he made up his mind to publish his discovery.

In 1450, William Gouffier, through the protecting interest of Agnes Sorel, received several estates, and, among others, that of Oiron. One

of his sons, Artus by name, was taken off to Italy by Louis XII., and appointed tutor to the young Duke of Valois, who was afterwards to become Francis I. He was a man of taste and erudition. His wife, Helen of Hangest, also was a remarkably intelligent woman, and it is probable that their august pupil owed to them much of the respect he

OIRON POTTERY.

VASE FOR HOLDING HOLY WATER. (Sauvageot Museum.)

EWER. (Hope Collection, London.)

BASIN WITH COVER. (Sauvageot Museum.)

subsequently evinced for artists and men of science. In 1519 Helen became a widow, and that same year Francis I. confided to her the care and education of his second son, who afterwards became Henry II. After 1524, although she did not altogether cease to frequent the Court, Helen resided often at her seat of Oiron, which, with the con-

sent of her eldest son, Claude Gouffier, she restored and embellished. She died in 1567.

It was there, in order to divert her mind during the eighteen years of her widowhood, that Helen directed or presided over the ceramic works of "her potter, Francis Charpentier, and of her secretary, and librarian, John Bernart." Various incontestable documents leave no doubt as to the certainty of the fact that these three were fellow-workers together, and the pieces of the so-called "Service of Henry II." are now more modestly designated as "Oiron faience."

The fifty-four pieces extant of the Oiron ware, which had for its original object the imitation of Oriental porcelain, can now be divided into three groups. In the first period the incrusted ornaments are chiefly of one single colour, or at most tinted with a brownish-black, or lighter brown, or a very dark crimson. The pieces are decorated with the arms of the lords of Bressiure, of Gilles de Laval, or of la Trémouille. They were evidently made singly, for presents, and not as forming part of a set, and this again is an argument in favour of their scarceness. "Bernart bestowed on it his talent for ornamentation, Charpentier his neatness of touch in handling the clay, and Helen her exquisite but somewhat sadly-toned refinement of taste."

Then this triple association of the workman, the man of learning, and the noble woman, was cut asunder by the unscrupulous hand of death, and each time that one of these was taken away a decline was visible in the artistic merit of the productions. In the second period, that which extended from 1537 to 1550, in which Bernart no longer figures as a member of the household estate, one misses the "intervention of a man whose love for books made him well acquainted with the practical and material part of their construction." The pieces affect an architectural form, the good taste of which is doubtful, and they have mostly been much restored and altered in recent times. We find the crest of the Montmorency family, and the arms of Henry II.; but it must not be forgotten that those have mostly been added by the restorers at the very time when the denomination of "Service of Henry II." was universally accepted. Had it been otherwise, the commercial value of it would have been lowered.

It is now well ascertained that the letters of the royal cypher were two C's interlaced in an H; that is to say, the initial letters of Catherine and of Henry; and that if the malignity of the Court pro-

BIBERON OF OIRON FAYENCE.

(In the possession of J. Malcolm, Esq., London.)

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fessed to see in it the additional cypher of Diana, the favourite was only reaping the benefit of a bit of royal deception. The emblem or crest of Diana of Poictiers was an arrow surrounded with a band of ribbon, on which was traced this motto: *Sola vivit in illa*, or *Consequitur quodcumque petit.* Nor is there anything to prove that examples of this ware, in which the Crescent—the royal monogram or coat of arms—is visible, ever were the property of the King; they figure there as on the furniture, on the counters, and on the walls of the castle of Anet; they are merely a date, or testimony of affection or gratitude towards the Royal person. Thus it is, too, with the Salamander of Francis I. If any one should insist that for this reason they were the real and personal property of the King, it may as well be pretended that the numerous articles bearing the fleur-de-lis of the ancient Royal family formed a part of the actual furniture of the Crown.

A fabrication of so exceptional a nature, exclusively for furnishing the sideboards or the dispensaries of one family and those of its friends, could not be carried on as an industrial art. Circumstances soon occurred to put an end to it. The grand equerry was obliged to abandon his castle, which was threatened by the Protestants at the time of the contest in 1562, and it was devastated in 1568. It is of the period of this interval that Monsieur Fillon supposes those pieces to have been of which we have as yet no catalogue, and which are naturally of less value than the rest. These were probably the work of some workmen to whom the prepared material was handed; for on those which have only passed through the furnace we find the old stamps, and even the same old shapes and traditional forms. They are chiefly plates and dishes, fountains for the table, salt-cellars, and jugs.

We interrupted ourselves in order to give the still very recent solution of the problem which had most excited the curiosity of amateurs. The truth is, that, as a whole, the Oiron faience does not deserve the vogue and renown which it has had, and will continue to enjoy for some time to come. The bowl with a cover, which we have reproduced, and which was left to the museum of the Louvre by Sauvageot, cost him 200 francs. Well and good. Add to this another 0 in order to testify to its rarity, and to make it more in accordance with the prices given at the Hôtel Drouôt. But if it be

first to estimate the actual value of these various series by their relative merit, there are a thousand articles, Oriental, Italian or French, in faience, porcelain, bronze, gold or enamel, which are greatly superior to these, the shapes of which are of a very poor conception. The goblets were copies of the splendid specimens in bronze, gold, or tin which were brought from Italy, or which Étienne Delaulne used to draw. But in the second period designs of satyr's tails, or those of chimeric figures fantastically twisted, were introduced by way of handles. Small figures of children, supporting candles on their heads, are utterly without genius or even merit: the salt-cellars are short and inelegant structures; finally, the ornamentation, which in certain of the pieces is pretty, is borrowed from the chapter-heads and vignettes of the charming books of this period; but they greatly lose by their translation into earthenware. To the infinite surprise of all, the South Kensington Museum went as high in its bidding as 30,000 francs for an object, the composition of which was of no practical interest, and, besides, the museum had already specimens of it in its possession; and this is more to be deplored, because, had this sum been offered to an eminent Ceramic artist, it would have afforded him leisure and opportunity to make real triumphs of artistic genius.* It is easy to imitate this Oiron pottery.† Who knows whether specimens of it, now held up to our admiration, are any older than yesterday? Nothing is easier of reproduction than these articles, upon which the hand of genius has not bestowed its princely touch . . . . Monsieur Avisseau, jun., of Tours, whom we shall further have occasion to mention when speaking of Bernard Palissy, has showed us that the imitation of these incrusted coloured clays is mere child's play.

We must now retrace our steps, and after launching on the Mediterranean, that blue lake so well calculated to inspire the muse of artists, we touch at the coast of Spain and the Balearic Islands. It is no longer to be doubted, after the solution of certain vexed questions concerning their origin, that it was there in the Island of Majorca that the Moorish potters first established themselves. Consequently,

* This specimen was not bought for the South Kensington Museum, but for J. Malcolm, Esq.—Ed.

† We do not admit the easy imitation of this faience. Those we have seen, made in France or England, are of a denser paste, and the incrustation is effected in a different manner. No collector could be deceived by such copies.—Ed.

a whole series of potteries, selected from what, as a whole, was termed Majolica ware, or, later on, siculo-Arabic, is now denominated as "Hispano-Moorish." This, together with the porcelain of Persia, is the richest decoration that can be bestowed on a dining-room sideboard, or on the wall-brackets of a studio. These basins of huge dimensions, which are flashed by metallic oxides with lightning like the jet of incandescent gas in a fire, and whereon are blazoned animals treading

HISPANO-MOORISH DISH.
(Soltikoff Collection.)

mottoes and labelled war-cries under their feet as they would the briars of a heraldic forest; these rude and delicate witnesses of war, and of the art and industry of the fifteenth century of Spain, open with unequalled force and gracefulness a wide world to the study of enamelled plates and dishes of enamelled faience. Italy herself, in

her best periods of taste, by softening the stiff style of the Majolica ware, caused it to become mannered and fantastic, and by the substitution of actual scenes for the summary and sufficient indications of semi-chimeric creatures originated its downfall. In this case the artist and the artisan, the mind which invents and the hand which creates, were so intimately connected, that we do not even think of ascertaining whether they were not one and the same person. In it we see one of the loveliest flowers which Moorish art caused to bloom on Spanish soil.

The chief establishment of Hispano-Moorish pottery is supposed to have existed at Malaga. The secrets of the art were certainly imparted there, either by the Arabs or by the conquering Moors. Perhaps, also, they came from Persia. The secret of making glazed tiles with a metallic lustre upon them, such as those which were found in the ruins of Mesopotamia, especially at Khorsabad, ought never to have been lost, in the midst of a nation endowed with so refined and keen a sense for decorative art. Towards the year 1350, a traveller, named Ibn-Batoutah, a native of Tangiers, who had been over a great portion of the East, mentioned, as a principal product of exportation, "the beautiful pottery, or gilt earthenware, which is manufactured at Malaga." The Italians were so delighted with them, that they inserted them into the facades of their churches, or of their *campaniles*, at Pisa, at Pavia, and on San Francesca, at Rome.

The glazed and ornamented tiles which covered the walls in Spain were called "azulejos." It was considered a rather expensive luxury, for Sancho Panza observes, in mentioning a poor man, to his master: "He will never have azulejos on his house!" The date of the "Torre del Vino," in the Alhambra, which contains some very splendid specimens of it, is 1345. All the courts of this palace, the object of which was to shut out that implacable enemy of Spain, the mid-day sun, were paved with it. It is there that is still to be seen the celebrated vase of the Alhambra, whereof a learned traveller, M. Davillier, brought back some tracings precise enough to enable the Brothers Deck to imitate it: at any rate, in the knots, and interlaced designs of its splendid ornamentation. It is of earthenware, the ground is white, and ornaments of blue in two shades, or of a prismatic copper colour, are clearly delineated on it. In the middle of these interlaced knots are Arabic characters, ornaments in themselves;

above is an elegant inscription, running all around, and signifying an exclamation to the glory of God; in the middle of a painted medallion, like a Moorish arcade, are two large antelopes, advancing to meet one another. No jewellery can exceed the bril-

HISPANO-MOORISH VASE.
(Museum of Cluny.)

liancy and freshness of this piece of workmanship. It is said, by tradition, to have been found in the sixteenth century, full of gold pieces, together with several others, that have been either broken or

stolen. Monsieur Théophile Gautier, in his "Tra los Montes," mentions the miserable state of neglect in which, even recently, lay, "to the shame of Granada, the magnificent vase of the Alhambra, which stands nearly four feet in height, a monument of inestimable rarity, that would, in itself and alone, be the glory of any museum, condemned by Spanish ignorance and sloth to moulder away unheeded in a filthy corner."

The productions of the manufactories in Valencia, whose furnaces had not been extinguished since the period of the Roman occupation, are distinguished by an eagle of a semi-heraldic nature, which family of sacred birds no naturalist has yet ventured to classify. The eagle often occupies the whole bottom of the dish, and sometimes the sides of it as well; from its beak to its wing is often unfolded a ribbon, bearing this motto: *In principio erat Verbum.* The persecutions of the Moors in the middle of the sixteenth century forbade them to speak, read, or write Arabic, either inside or out of their houses; to preserve books written in the Arabic tongue, or even to do any "Moorish work." Who knows whether some few families, traced and pursued by the Inquisition, may not have emigrated, and sought a home in Italy?

Notwithstanding the many published works on the subject, the classification of Hispano-Moorish products is still somewhat complicated and obscure. In order not to take leave of general divisions, we have been compelled to pass silently over the manufactures of Sicily, whose productions are, in almost every particular, similar to those above mentioned.

Luca della Robbia, no doubt, only used according to his own fancy the process then in vogue; but it is easy to conceive how difficult it was to discern and identify these first fruits of an Italian soil. We shall again, for many a time, find ourselves face to face with this difficulty; at Nevers, at Rouen, and in various other localities. The art of Majolica ware was Arabian, until the day when Italian genius modified it gradually to its own design; and it is at this point that we will take it up once more.

Our modern potters exerted themselves in the reproduction, either of Italian majolicas, because even the imitation of these were bought at very high prices, or of Persian earthenware, because they were composed of but few tints, and that the deep red and the emerald

green were colours which had been most rare, and had created the greatest curiosity and excitement as to their production. It would be as well, indeed, for us, to go back to the Hispano-Moorish majolica. Without exactly copying them, we might and should inspire ourselves with the spirit by which they were wrought. Our architects would there find a whole mine of materials of a marvellous richness and solidity. Do we not know that the palaces of the "Arabian Nights" glittered with plates of the brightest scarlet, green, and amber, varied with polished bronze? The composition of metallic lustres is not lost; we still meet with it, though clumsily executed, on modern productions; some of them, which were to be seen at the French Exhibition (Palais de l'Industrie), attained to the multitudinous prismatic colours of mother-of-pearl.

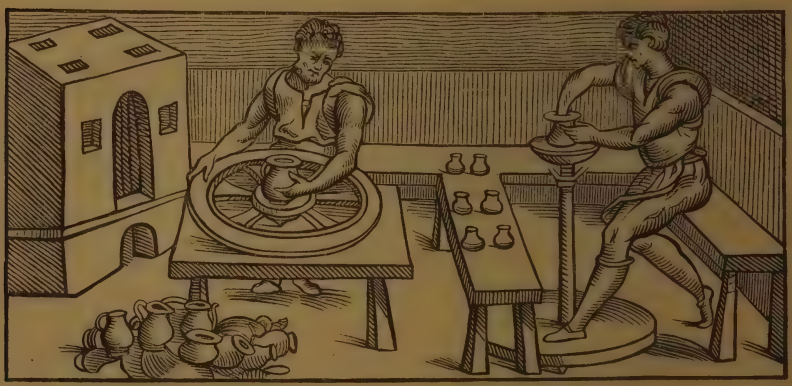
Monsieur Louis Carron has made some very conclusive experiments on the Hispano-Moorish lustres. He says: "Copper and silver were not always used simultaneously; thus, the ware covered with a dark red prismatic lustre contains nothing but copper; silver was only added to it in order to diminish the intensity of the colour, and to give it a softer tone." The manipulation of it, and the study of the degree of heat, are also of much more effectual importance, and cannot be adequately described. Formerly they were monopolized by the members of one corporation. It appears that the South Kensington Museum, besides the original manuscript of Piccolpasso, a Durantine potter, possesses also a chapter on the process of metallic lustre, which has never as yet been published. It is surprising that so liberal a museum should hitherto not have transcribed and edited such a curious document.

After Italy had passionately admired enamelled ware, and when she attempted herself to produce it, she succeeded so suddenly and so triumphantly, that it was long thought—and we hitherto had no positive reason for disbelieving the assurance of Vasari—that Luca della Robbia was the inventor of that most wonderful of all productions, the stanniferous white enamel, which is an opaque body composed of tin.

Luca della Robbia, the head of the family whose name has never ceased to be popular, was born in 1399, or 1400, at Florence. After the manner of nearly all the great Italian sculptors of the fifteenth century, he was originally a goldsmith. Then he took to carving

marble, and we must class among the finest productions of all ages, the "Dix Chœurs de la Musique," which were destined for the pinnacle of the organ of Santa Maria del Fiore, at Florence, and which are now placed in the Gallery of Royal Offices. Vasari writes: "One even seems to perceive the motion of the lips of the singers, the agitation of the hands of those who are beating time, over the shoulder of the smaller ones, as well as every description of games, songs, and dances, all the playfulness of which the sound of cheerful music suggests."

In 1446, the Church accounts, in accordance with the statement of Vasari, mention for the first time, one of Luca della Robbia's enamelled terra-cotta's, representing the Ascension. What can have prompted him to attempt this process? Was it that he found the work of



VENETIAN POTTERS AT WORK ABOUT THE YEAR 1540.
(From an engraving by V. Biringuccio, called the "Pirotechnie.")

chiselling and scraping marble to be a tedious one? Or, was it an attempt to immortalize a sketch by modelling it in clay? Or, again, was it merely a branch of commercial industry which was already in practice among the potters of Caffagiolo, in order to obtain, by a factitious process, the whiteness of marble?

We are willing to believe that he was actuated by a higher motive. He had cast and chiselled the gates of the vestry of Santa Maria del Fiore, together with Michelozzo and Mazo di Bartolomeo. No doubt, he wished to avoid being aided; and, therefore, having recourse to a plan which combined both the relief and the colour, he was able unassisted to decorate and ornament a monument, contenting himself

with the general effect. "Luca was right," writes M. H. Barbet de Jouy, with remarkable keenness of apprehension and judgment, "when he animated enamelled sculpture with colour; but he was too prodigal of it; the huge masses of Florentine architecture are particularly severe and stiff, and the alternately black and white layers of stone would produce the effect of mourning draperies, if the monuments of the middle ages had not been enlivened by mosaics, which were subject to the rules of good taste. In the fifteenth century the Mosaic art became nearly extinguished; even in those places the decoration of which a clever architect would have handed over to him, Luca fitted in some of his coloured bas-reliefs. Thus, at San Miniato, it was the cornice of an altar, or the ceiling of an elegant chapel, the ornamentation in relief and coloured ground-work of which blend equally with a marble tomb, with incrusted walls, and a mosaic pavement. On the great façade of Or San Michele he placed large medallions, which shine out with subdued brilliancy from the walls, without frame-work or cornice, affording as much pleasure to the eye as would a tuft of flowers on a neglected ruin, or on a rocky cliff. In the Church of the Archers at Prato, the picture is of two colours, black and white; the ornament which unites these two is an elegant frieze of enamelled terra-cotta, white reliefs upon a sky-blue ground, which gives the tone to the whole; a crown of flowers surrounds the top of each pilaster, and a given number of candelabra, to which wreaths are attached, fill up the spaces between the crowns. Not one of these ornaments could be suppressed without being missed; each one is necessary to its place; and when we raise our eyes from the walls to the ceiling, they meet with four large circular medallions, on which the Evangelists are represented on a blue ground, spangled with gold stars, in a happy combination of relief and colouring."

These are grand examples, gathered when Italian art was still in the flower of its youth. Polychromy was not yet denounced as contemptible, and now that it is recovering and protesting against so severe and ridiculous a condemnation, it were well if our architects were encouraged to attempt it on vast proportions. A few years ago, when the town municipalities caused the two theatres which now stand opposite to one another on the Place du Châtelet, to be erected, the architect endeavoured to insert in their walls large round medallions in earthenware, representing Music and Poetry. But, as no other

part of the façade was at all in keeping with their colouring, the figures stood out like live figures seen through a magnifying glass; so they had to be removed.

On the Boulevards we see that the gable of the house of one of the most eminent of photographic artists is surmounted at the top and at the two angles of the triangle by enamelled busts, which produce an excellent effect against the sky. Such an example, suggested purely by chance, is sufficient to prove to all beholders that this style of decoration would not be out of place or otherwise than agreeable in this country.

Luca's success was complete, inasmuch as, like all men of genius, he commenced and completed his invention with one stroke. The attitudes of his figures are always easy, the details are quiet and simple, and the frame-work of his compositions always consists of rows of pearls, Greek friezes, or thin wreaths of single or only semi-double flowers. The enamel which he spread over the figures covered them without filling in the cavities, and without interfering with the minute delicacy of the moulding.

For scenery, garments, and other accessories he uses chiefly green, blue, and white; for more prominent effects gold, yellow, and violet. Even these are superfluous when we see these masterpieces of chastity and of tender piety in museums or private collections—that is to say, when they are isolated from the centre for which they were originally designed, and hidden under a hideous coating of whitewash, however transparent it may be; the eye cannot become suddenly impartial or the mind prompt enough to remember that it is in the place for which they were originally made, and from whence, despite all logic, we have removed them, that they should be judged and criticised, and there only.

The Louvre possesses an example of Luca della Robbia's work, "the Virgin and St. John the Baptist worshipping the Infant Jesus in the Manger"; two flying heads of cherubims, and a border composed of nine other winged heads, are surrounded by a second border composed of bunches of lilies and eglantine roses. At the Museum of Cluny there are at least three, one Holy Family, a figure of Temperance, and one of Faith; they are all on a large scale; but executed with the most minute delicacy.

What is remarkable about the peculiar tone of this enamel is, that although from its transparency it betrays the red clay underneath, it

assumes the appearance of yellow ivory. This is the incontestable mark of the authenticated works of the artist, which are very rare. In these days there are certain groups of figures which have been cleverly moulded in a kind of earthenware made in Tuscany, re-moulded and enamelled with great care, in the hope of their being

THE HOLY FAMILY.
(Medallion by Luca della Robbia. Museum of the Hôtel Cluny, Paris.)

smuggled in among original works, and mistaken for them. But the process of moulding is always to be discerned by close observation. Apart from the question of sentiment, which always will weigh in the appreciation of works of art, there is a somewhat curious method of

discovering spurious imitations; thus, the earth, when it is going to be enamelled, is still in a soft state, but it shrinks and reduces itself in drying to almost a tenth part of what it was, and sometimes to less. The doubtful pieces might then be measured against those of which the catalogues have stated the exact dimensions.

Luca died in 1481. He left as his heir Andrea della Robbia, at once his pupil and his nephew. In him we chiefly see the artisan and not specially the artist. He devoted himself—besides assisting his uncle—to medallions, the reredos of altars, and bas-reliefs generally. But his taste being far less refined, his expressions were mannered, and his attitudes stiff; and by substituting fruit for flowers in his garlands, he gives to them an aspect of weight and general ponderousness. In addition to him there was a Giovanni, a Girolamo, and another Luca, who all established themselves at Rome. They were the authors of the numerous specimens of so-called art which help to stock collections, and appear under the name of the great Luca, without having the slightest claim to artistic interest. Taken altogether, they are entirely without ornamental merit.

Girolamo came to France in 1528, and began the construction of the Chateau de Madrid for Francis I., which he was forced, by the jealousy of Philibert de l'Orme, to abandon. He then returned to Italy, and only revisited France when called upon by the Primatice to complete, under his direction, the enamelled ornamentation of the castle. This curious example of an art so exactly suited to the French climate was preserved uninjured until within a few years of our time, for in 1792, although in a neglected and dirty state, the Chateau de Madrid was still standing. At this period the terra cottas were destroyed; and pounded in a mortar to make cement!

One French artist of the present day has endeavoured to take up the work and designs of the Della Robbia, and that is M. Joseph Devers, a Piedmontese; when still very young, he came to Paris and studied painting with Ary Scheffer, sculpture with Rude, and the art of enamelled decoration with M. Jollivet. It is to his courageous perseverance that we owe the modern movement of the public mind in favour of enamelled faience decoration. Others have surpassed him in the perfection of the art, and made their fortunes, but it was he who heated the furnace. At the Academy of Arts, in 1853, he

exhibited a vast composition called "The Guardian Angels." Since then, besides many minor works which he executed for private dwellings in France and Italy, and in England, he executed four alti relievi for the Church of St. Eustace, and a bust of Della Robbia for the Kensington Museum. The labours of M. Devers entitle him to our warmest congratulation.

The vogue of enamelled faience shared the fate of the Della Robbia family. But during this period, the art of Italian Majolica had blossomed out of the attempt to imitate Hispano-Moorish pottery, the aspect of which it had greatly modified and softened. This was at a time when Italian society, full of enthusiasm for antique art, was seeking inspiration from its spirit; rich, pompous, courteous, capricious, and gifted with taste as keen, though it was not so pure, as that of the Greeks, society in Italy was vividly awake to the charm of those elegant ewers, and basins, and the vases of all kinds which replaced, without imitating it too closely, the goldsmiths' work of feudal times. It became customary for lovers to have the names of their mistresses inscribed in the inside of their cups and bowls, together with some laudatory epithet. Convents ordered whole sets of pharmacy pots and bottles to be ornamented with the figure of their patron saint, or the arms of their founder and protector. Sideboards were weighted down with gourds and ewers, whose handles were formed of leaning sirens, or of twisted and knotted serpents. Representations of the Siege of Troy were executed in the plates, and the Metamorphoses of Ovid in the dishes of dinner services. The old masters, and Raphael himself, did not disdain to make designs, or to colour cartoons for Ceramic workmen to execute in their art. The invention, or rather the vulgarisation, of engraving brought all the works of Marc Antonio, after Raphael, into the potter's studio. Everything contributed to the triumph of Majolica; the moderate price of the material, the adroitness of the artists, the close relations with France, where Italian was fast stifling national Renaissance. By what still remains we may judge of what must have been done in the fifteenth and sixteenth centuries, and the amount of it which was thrown away, broken, worn out and disposed of as rubbish, passes all belief or imagination. Feasts were given which ended very much like the sacking of a town. The chronicler, Pierre de l'Estoile, relates that in 1580, after a dinner given by Cardinal de Birague to Henry III., "there were two large tables

covered with 1100 or 1200 pieces of faience, full of dried fruits, sugar-plums, and confects of all kinds, built up into castles, pyramids, platforms, and other magnificent fashions, most of which were thrown down and broken in pieces by the pages and servants of the Court, who were of a wanton and insolent nature. And great was the loss, for all the service was excellently beautiful."

GROTESQUELY ORNAMENTED EWER.
(From the Urbino manufactory. Now in the collection of Baron James de Rothschild.)

The upper provinces of Italy, and especially that part which was formerly Etruria, were, by a singular combination of transmitted privileges, the most active centres of reproduction. The more documents are searched, the longer becomes the list of the places where manufactories existed. This is the present classification of it:

Manufactories of the Marches: Faenza, Forli and Rimini; of Tuscany: Caffagiolo, Siena and Pisa; of the Duchy of Urbino: Pesaro, Castel Durante, Urbino, Gubbio and Gualdo; of the Pontifical States: Deruta; of the Northern Duchies: Ferrara; of Venetia: Venice, Padua, Bassano; of the State of Genoa: Savona; of the Kingdom of Naples: Castelli.

Whoever is in the habit of frequenting large collections must, besides being well acquainted with the names of the villages and towns in which they were made, have the marks and signatures of their respective artists or makers at their fingers' end. One must, as it were, take one's degree in the study of pottery. If it were not restricted to the study of a peculiar varnish, and of the identity of the marks on the reverse, it would after all, be as interesting a science as many others; but, unfortunately, the more one goes on with it, the more details multiply and stunt the growth of natural taste. Even the museums have committed this error, and in their glass cabinets they give too large a share to learning. In a museum devoting itself to the study of industrial art, such as the Kensington Museum, this would be excusable; but ought not the Louvre, exclusively, to offer to the public gaze specimens which are recognised to be of peculiar beauty? Works of purely decorative art should be displayed, as in the museum of the Hôtel Cluny, spread about in appropriate nooks and suitable corners; on tables, cupboards, or shelves; or, again, between the windows. To lay them on tables, all equally high, and each at the same distance from the other as the last, like mineralogical specimens, is to deprive them of the object for which they were made and intended—to lift them out of their own sphere, and cause them to be looked upon by the million as they would look at the original manuscript of an old bible.

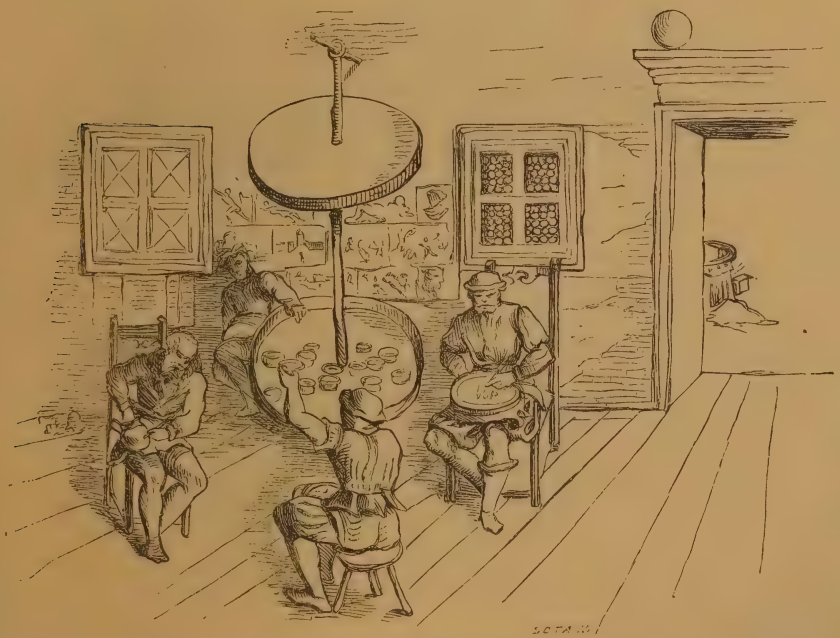
The manufactory at Faenza is curious, insomuch that its name was given by the French to all the descriptions of terra cotta and enamelled faience that they met with. French genius rather excels in those despotic little caprices, and of affixing nick-names which are, to say the worst of them, not offensively impertinent, so that, after a slight feeling of indignation, the whole world finishes by adopting them. The produce of Faenza is of a peculiarly archaic style; the pieces are mostly decorated with grotesque figures, which stand out in light shades upon a ground of blue or yellow, and which are drawn out with a minuteness

of hand perfectly astonishing. Among other specimens, the Louvre possesses a pretty little warming apparatus for the hands; it is in the shape and form of a book, with a clasp to it; hot water is introduced in the centre, so that, during church-time, for instance, one could appear to be devoutly reading and holding one's book, but two holes close to the binding-thread across the back (for the binding is exactly similar to a real one) were destined to receive a band, which suspended the hypocritical warmer across the shoulder, and supported it in its proper place and height.

But before we mention, even summarily, the principal manufactories, since we have just given the origin of the word "faïence," let us look over the book of a potter of Castel Durante, which will, for an instant, take us through the midst of those workshops, where it was kneaded, ornamented, baked, and sometimes even sold; this book which Monsieur Claudius Popelin, a painter and enameller of real merit, has translated in imitation of the old style of language, is the "Art du Potier," by Cyprian Piccolpasso. He wrote it in 1548, ten years after the accession of Guidobaldo II., Feltro della Rovere. This lord of Pesaro and of Sinigaglia, of Montefeltro, and of Castel Durante, Count and Prefect of Rome, fourth Duke of Urbino, protected, with his greatest favour, the art of Majolica decoration which Alphonso d'Este had held to be of such great importance that he exclusively directed his attention to the discovery of beautiful and refined secrets in the art, and finished by composing the famous white colour of the Dukes of Ferrara; he collected all he could find of Raphael's original drawings and any engravings of his works, excited the imagination of the men of science, whom he employed to compose ingenious sentences and mottoes, and appropriated the services of Battista Franco, whose sketches were so successfully copied by Ceramic art. The famous collection of pharmacy vases of Loreto, one of the most complete of that set of curiosities in decorative art which has been left to us by the Renaissance, was made in his manufactories.

Piccolpasso's book is divided into three parts: it tells us how the deposits of earth, which are collected in summer in the beds of the torrents descending from the Apennines, was picked up and lumped in a heap, washed by the rains, cleaned, kneaded, and preserved in large lumps of a given shape and size. The older the earth, the better it was. These lumps were fashioned by a process of turning,

such as we have represented it on page 46, where one is being worked by the hand and another by the feet. The fluted cups, and the vases with irregular profiles, were cast in plaster moulds in two pieces, which were afterwards joined and stuck together by means of a species of liquid clay, called in French *barbotine.* After the pieces have been first dried in the air, they receive their first baking, and become what is termed biscuit; they take the enamel when plunged in a tub full of it in a liquid state,



WORKSHOP OF PICCOLPASSO.
(A Durantine potter of the sixteenth century.)

which, when dry, greatly resembles a sort of coarse flour. It is on this enamel, in its raw state, that the Ceramic artist applies his colours, in a liquid state, by means of a long and supple brush; the effect is produced by the first touch, for it hardly admits of a second.

Enamel in those days was composed of Flanders tin. In the print here reproduced from those which accompany the French translation

of his treatise, and which, unfortunately, therefore is only known to us through a medium, Piccolpasso shows us the very attitudes of the decorators, together with the models they used; also a list of the prices of various plates and dishes, when sold by the dozen. The painted pieces were plunged into the surface material, then called *marzacotto*, enclosed in proper cases and taken to the furnace. In these cases—which were cylindrical and made of earth, pierced throughout with lateral holes—the pieces were placed in such a manner that the paintings should be downward, to prevent the possibility of cinders or dust clinging to them; as each case was able to

EWER, ARMORIALLY DECORATED.
(Ferrara ware. In the collection of Baron A. de Rothschild.)

contain several plates or dishes, they were kept apart from one another by means of little earthen cones, called *tassettes*, the marks of which are clearly visible when the baking is completed. The metallic lustres and polish were only applied at the third baking; perhaps they were processes jealously kept secret by the workmen who had discovered them, and who transmitted them only upon certain conditions.

Piccolpasso also acquaints us with the nomenclature, or terms employed to designate certain styles of decoration, as well as the price which they were able to fetch; "trophies" were composed of attributes of war or instruments of music; they were chiefly made at Urbino:

"arabesques," generally wrought on a white ground, came from Venice or Genoa: "chesnaies" were wreaths of oak-leaves and acorns, "in use among us, through the respect and veneration we owe to Della Rovere, under whose shadow we live happily." "Grotesques" were intervolutions of grimacing figures, which were then nearly out of fashion; "flowers, fruits, and leaves," and "leaves by the dozen;" a quick and cheap style of ornamentation covering the whole surface

VASE WITH GROTESQUES AND ARABESQUES.
(Ferrara work.)

of the dish; "landscapes," of Venice, Genoa, and Castel Durante, which cost six francs a hundred; "porcelains" and "traits," a light delicate decoration, which resemble the nielli and ornamentation of the margins of a Persian manuscript. "White upon white," that looks like a veil of Maltese lace, through which you can see the colour of the piece; "quarters," which divided the whole pattern into equal portions; "groups with or without background;" and, finally, the "candelabra," a grotesque form of decoration, when done on plaques

were capable of being suspended to walls behind lights, to act as reflectors, in the same manner as the Venetian engraved glass was used at a later date.

We have just been initiated by a potter into the secrets of his art; let us now hear what an antiquarian has to say on the subject. Giambattista Passeri, of Pesaro, wrote in the latter part of the eighteenth century. He had already collected a number of notes that he had made on Etruscan vases and designs, when in visiting the collections of amateurs, and in looking round upon the quantity of Majolica he had, by degrees, surrounded himself with, he was inspired with enthusiasm for the branch of industrial art specially distinguishing his province. In a fervour of patriotic sentiment he undertook to write a history of it, but he may have been slightly unjust to the other centres of Ceramic produce; nevertheless, it is he who, by his writings, lighted the fire which was to guide modern writers in their researches. He himself made use of Piccolpasso's work, but his work is that of a man of the world, willing to divert the mind from what may be called a dryness of his subject, by taking ingenious little excursions.

Giambattista Passeri goes back to the first years of the fifteenth century, when he supposes the art of Majolica at Pesaro to have been in its bloom, and considers that it must there have been brought to perfection fifty years later, when under the dominion of the Sforzas. At that time the "investriatura," as he terms it, or mezza-majolica, was made there. In the sixteenth century, the invention of fine majolica reached its greatest success.

He afterwards speaks of a process that effected marvels; it was no other than tesselated pavement, a thing utterly distinct from the inlaid chequers, of which we have spoken above, as connected with the French middle ages.

The flooring of Siena Cathedral is one of the most celebrated examples. It is composed of a series of squares forming a whole, and painted bit by bit, thus forming one vast design, complicated though it was. These squares by scientific juxtaposition formed the illustration of a single subject. The process has been revived in our day with the same success. In the yard of the "École des Beaux Arts," at Paris, our readers may see fastened to the wall a large sheet of Majolica made in a number of square pieces, which are joined so as to

form one large piece; it was painted and baked by one of the brothers Balze, to whom we owe some extremely fine copies of Raphael's frescoes. Whatever may be the merit of this reproduction, it would have been far more reasonable to have paved a chapel or study with it, than to affix it to the wall of a courtyard.

After stating the merits of the artists of whom the Dukes Guidobaldi had instituted themselves protectors, such as Battista Franco, or those whose works they had caused to be reproduced, such as Timoteo-Delle-Vite, Raphael and his pupils, Passeri goes on to enumerate the subjects chosen from history or the Bible, or from Greek or Latin poetry. "Thence," he adds, "I infer two things; first, that the work was presided over by wise and learned men; and secondly, that these paintings were not only made for beauty's sake, but also with the object of teaching the public mind those things which an educated person neither can nor ought to ignore, and which can raise the tone of morality in general by the example of virtuous actions."

Later on he indicates the destination of all the beautiful faience which we so carefully place within our glazed cabinets, and the reason why it was so highly decorated: "Formerly in our country it was customary to make presents of vessels, and particularly of dishes or plates, with some complimentary motto inscribed upon them; and those dishes or plates were painted in a manner appropriate to the occasion on which they were presented, or the reason for which they were given. There was, more especially, a species of small dish, which might be called "amatorii" (love-gifts), on which a lover caused a portrait of his mistress to be painted from nature, and which he afterwards sent to her, full of confects, such as dried fruits, sweet meats, and the like. This gift was highly esteemed, and looked upon as a pledge of constancy."

Fragile gift of a fickle nature! for, after mentioning some of these little hollow plates, showing the likeness and bearing the name of the lady flatteringly inscribed thus: "Camilla bella! . . . Lucia diva! . . ." Passeri adds: "On another we read the name of Philomele, through which, acting from indifference or pique, the young lady seems to have pierced a hole, and converted it into a mouse-trap."

Sometimes, during ceremonies or at balls, young ladies were helped to sweetmeats on little round dishes, at the bottom of which was painted a figure of Cupid dancing and playing on cymbals. Muni-

cipalities ordered whole services of pottery to be made and marked with their crest and armorial bearings. For weddings, potters were ordered to select from the fables or from the thousand metamorphoses of Jupiter, an appropriate incident to reproduce. On the occasion of a birth a large vase was specially modelled and beautifully ornamented, to be handed to the mother as she lay in bed. "It was so contrived

ENGAGEMENT PLATE.
(Pesaro ware.)

as to detach itself into seven or eight pieces of various dimensions and for various uses; one was a soup-tureen, another a little egg-stand, and so on. Then, when they had performed their services, they were replaced, and again took the form of one large vase." These pieces, which are painted inside and out with peculiar care, represented the

birth of gods or of heroes, or else they made special allusion to these events. On utensils for the bath, figures of water-nymphs, or the triumph of some maritime divinity, were generally painted. "The most eminent Cardinal Linti sent as a present to the most eminent Cardinal Corsini a water-shell, in which was represented, in a symbolical manner, the arrival of Madame Vittoria, wife of Duke Guid'

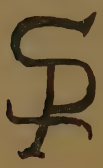
VASE TO ORNAMENT A DRESSOIR.
(Urbino ware. In Mons. Dutuit's collection.)

Ubaldo to Pesaro, in the form of a marine goddess, accompanied by nymphs and tritons, than which was never anything better conceived, or more ably executed."

The history of the most important Italian Ceramic centres has of

late made rapid strides. Many suppositions and mere conjectures have been confirmed by original documents.

A clear and legible mark on the reverse side of certain pieces have enabled a whole series to be identified as belonging positively to one



and the same set, which had hitherto only been suspected of relationship from a similarity of aspect, design, tone and colouring. Certain manufactories, hitherto almost unknown, have risen so suddenly in popular estimation that the taste may be said to fluctuate on a principle comparable to that of Caffagiolo, whose characteristic mark is composed of a P and S, and another letter placed across them, and that not always the same letter.

A DISH OF CAFFAGIOLO WARE.
(Baron A. de Rothschild's collection.)

Pesaro and Castel Durante made use of yellow or ruby red on their majolicas; but it is at Urbino that they were made to shine and glitter with the greatest taste and scientific knowledge.

In 1535, the "Connétable de Montmorency" ordered a service there, decorated with his armorial bearings, six plates of which set have been preserved. One of the most celebrated artistic manufacturers Urbino ever possessed was named Francesco Xanto Avelli da Rovigo. He sometimes signed with an alpha A, and an omega Ω, crossed by a bar with a sigma Σ, and an upsilon Υ.* He has almost invariably copied Raphael's compositions, modifying them sometimes by the addition of figures drawn from other sources. He applies his colouring in large plain surfaces; the tints of his skin and flesh are rendered cold by a brownish hue. The general tone of his painting, which is light, is relieved by bold touches of a deep and soft black like velvet; the distinguishing characteristic of it is the brilliant green of his foliage and drapery. His was an accomplished mind, and it is not uncommon to find, on the reverse side of his dishes, long quotations from Ovid, Virgil, Ariosto, or else allusions to events of the period, the siege of Rome by Cardinal de Bourbon, or the defeat of Francis I. at Pavia.

The richest, noblest, and best conceived of all the specimens of majolica that we have yet seen, was transferred from the collection of a much-regretted amateur, M. Rattier, to that of the Marquis of Saint-Seine. The Louvre only possesses a copy of it, inferior to it both in tone and in boldness of conception, which fact goes to prove that the master, Fr. Xanto da Rovigo, handed to his workmen a model which they did their best to reproduce. The subject is "Florence overwhelmed with grief at the death of her children." The principal figure is kneeling, with her hair in disorder, her bosom uncovered, and a drapery only on her legs, and gazing at the body of her loved one stricken by the plague; the figure is borrowed from "The Massacre of the Innocents," of Baccio Bandinelli, which was engraved by Marco Dente. Over her head two genii are flying, one bearing a sword and the other brandishing two torches. This magnificent bowl may be placed as one of the noblest creations of decorative art.

Xanto ceased to work after 1540. Orazio Fontana appears to have

* His usual mark was an X for Xanto, occasionally he gave his name more fully, taking one or more of the initials Fra Xanto Avelli da Rovigo, which were placed on the backs of his pieces. The above characters occur on the front of a plate, but bear no allusion to his name.—Ed.

succeeded him; but his is no longer the same vigour of pencil, or the same science of colouring. One of his master-pieces is at the Louvre; it represents an antique feast in a public place. It is not so much the detail of the scene, as the dignified character of the whole, which is so admirable in the Urbino ware of the best period. These majolicas are equal to Oriental art in richness and harmony of colour; they rival a

GOURD IN URBINO WARE.
(In Mons. Jarvez's collection.)

Persian manuscript or an Indian shawl, or, again, a Japanese dish, or at least the softest and more delicate of them do.

One of the most striking characteristics of some of these productions is the pencilling in red which, when viewed from an incidental angle, shines with even more intensity than the most brilliant enamel.

It is Maestro Giorgio Andreoli, sculptor and potter of the factory of Gubbio, whose signature is found on the reverse side of the dishes which shine with the finest lustre and polish, and, as the centre subjects of many differ in style, it has been supposed (rather contrary, however, to the customs of the age), that the process being a secret, Maestro Giorgio went from one workshop on to another. He was the son of Pietro Andreoli, a gentleman of Pavia. In 1498 he obtained at Gubbio (a county in the Duchy of Urbino, situated on the eastern slope of the Apennines) the right of citizenship, and became a person of importance. He was both architect and sculptor, and erected decorative altars in several of the churches of his adopted town, but not one of them has been preserved to this day. His monograms, or at least those which are attributed to him, are too numerous and not sufficiently

FLAGON IN THE SHAPE OF A RHYTON, BY MAESTRO GIORGIO ANDREOLI.
(In Baron G. de Rothschild's collection).

clear for us here to put them before our readers with any degree of certainty, especially as this is no critical work. The best mark for the recognition of a master's work is faultless execution, and such is that of Maestro Giorgio Andreoli. The flagon in the shape of an antique rhyton, of which the above plate is an exact copy, is ornamented in relief, which tends to heighten its already patrician air. One document proves that Maestro Giorgio was still alive in 1552, and the addition of initial letters to his monogram indicate that in the year 1537 he had taken his three sons into partnership.

It is supposed that the factory of Deruta was founded by Antonio di Duccio, a pupil of Luca della Robbia. It has produced pieces of majolica which are chiefly recognisable by a light yellow lustre, and by vases in the shape of fir-cones, an allusion to which Bacchus must have shown himself particularly pleased. It is here that the teaching of Hispano-Moorish earthenware, which is so rich and yet so simple, was best understood. The early figures of saints and warriors which were painted there have not been surpassed in boldness and strength by any of the other manufactories. Mantegna himself furnished designs for it.

Ferrara was celebrated, as early as the fifteenth century, for the peculiar beauty of the white it produced, which was experimented on by Alfonzo I., then Duke of Este, in a small furnace which he had caused to be built under the very windows of his palace. At Venice was made that dark-blue pottery, veined or marbled with white or yellow, which the Nevers potters not only imitated but succeeded in exactly reproducing. The pieces were generally made in moulds. In the middle of the eighteenth century the Venetian mark consisted of an A and an F united and surmounted by two palms, or else one of these two letters united to a three-pronged anchor.

After having flourished with undiminished glory for the space of one century and a half in Italy, Majolica gradually became extinguished and nearly disappeared, from the point of view at least which particularly interests us; that is to say, if the furnaces were kept alight at all, nothing was put into them except pieces of an extravagant shape and outline, bulging and distorted, like those of Genoa or Savona, whose figures were without grace and their landscapes without beauty. Oriental porcelain had entered into great competition with them. Passeri, whom we have mentioned because he exactly illustrates the semi-critical tone of mind of a clever man at any given period, bears witness to the new preoccupations of amateurs at that time.

If the introduction of Oriental porcelain was a great fact in industrial economy, it was found on the other hand to exercise an evil influence upon the art of decoration. In their endeavour to reproduce the material, people contented themselves with the production of small

pieces, so that the sentiment for decoration on a large scale suffered at once, and was to a certain extent laid aside. In comparing the actual character of the two materials, we are struck at once with the difference between them; that of porcelain is hard, glassy, cold to the touch; and refusing to absorb colour, it is anti-pathetic, uninviting; Faience, on the contrary, seems to open its arms to colouring. One is as much open to decoration as the other is little so; we speak, at any rate, of the European porcelain, for with regard to that of the Persians, Japanese and Chinese, we shall see hereafter how much frankness and geniality they expressed simply in what at first sight appeared to be only plain surfaces of red, of blue, and of green.

At the present day Italian majolica has been revived with success—but without originality—by Minton, in England, but especially in the factories of the Marquis Ginori, at Doccia, near Florence. Some of these productions are signed Ginori, or merely marked with a G encircling an F; others have no mark at all, and they have barely issued from the potter's hands before they are carried off by brokers, or, more properly speaking, by "swindlers." The first thing they do is to put them in a dungheap to rot; then they expose them to a hot sun, or else they boil them in greasy, dirty water, to give them the smell of antiquity; they scrape the enamel with emery paper in order to rub the betraying varnish off, and make ingenious cracks and chips in them. These freebooters sometimes purposely break the piece and put it clumsily together again. It is seldom that with one or other of their frauds, of which we have mentioned only the commonest, they fail to deceive a credulous amateur, a novice in this branch of art. A spurious imitation, however, can hardly resist the double analogies of good taste and experience, or the expert criticism of real connoisseurs, or of learned amateurs; a close comparison between it and an original suffices to show where the factitious piece of antiquity is halt and deformed.

On the other hand the simplicity of these forgers of the antique, who will take no warning, and who rush into the contest without ammunition and without weapons, is easily exposed. No tribunal exists for the punishment of these frauds, and indeed what judge could decorously keep his countenance when a victim's sole complaint to him is that he has purchased a genuine Luca della Robbia for only thirty

francs . . . a vulgar modern moulding which would dishonour even the memory of the great master? Such dupes have done the greatest mischief to contemporaneous decorative art; such amateurs affect enthusiasm for things of which they neither appreciate the grace nor understand the real merit.

The art of Majolica—to put the matter on a broader basis, we will call it the art of enamelled and painted earthenware—can no longer content itself with the mere reproduction of pieces, even of the finest specimens of Italian art. We might as well ask our poets to write nothing but tragedies. Our sideboards, carved out in kinds of wood which were then unknown, with different outlines, and made to supply new wants, cannot be burdened with spurious imitations which are dimmed and extinguished the moment an original, even of the same period, is admitted among them.

It must transform itself as all other arts have done. For our part, with the exception of a small number of pieces which have their place in the national collections of the Louvre, Cluny, Sèvres, and South Kensington, and in one or two amateur collections, we scarcely know any pottery which in interest surpasses the plates or decorated dishes in the workshops of the brothers Deck, by Messrs. Bracquemond, Ranvier, Hamon, Gluck, Ehrmann, &c. One day Monsieur Français, the landscape painter, amused himself by painting, on the wide margin of a dish, a thick wreath of ivy, in the centre of which was an owl which looks at you with distended eyes. Can one suppose this dish, unique as a picture sketched by an artist's hand, to be of less value than a potsherd executed without vigour, which happens to have an unknown mark on the reverse side of it?

The claim we here put in is the more logical, that French genius, which knows so little how to yield to strange influences, was from beginning to end the inventor of enamelled earthenware, and stamped on it a surprising mark of originality. If Italy has her Luca della Robbia, France has her Bernard Palissy, whose genius, so purely Gallic, we will proceed to study from his works, and briefly glance at his perseverance and sufferings, by quoting his own words.

The birth-place of Bernard Palissy is still a contestable point. Shall we suppose it to have been in Périgord, or in the Agenois. A native of Poitou who is learned in such researches, Mons. Benjamin Fillon,

is of opinion that he came from Saintonge, his dialect being precisely that of the borders of the Charente. He says: "The popular expressions of that territory are too deeply engrafted in his composition not to have entered it with the blood of his fathers." Buffon has said: "The style tells the man;" in this instance it should be, the style tells the birth-place.

What was the date of Palissy's birth? If we may believe Pierre l'Estoile, who for many years was his intimate associate, it was 1510. But we are still without any document which can positively confirm this fact.

To what social class did he belong? No doubt to the lower middle class; for in a registered document dated 1558, he is denominated: "That honourable man, Master Bernard Palissy, painter, living in the town of Saintes."

In the oldest documents we have which may be trusted on the subject, we find him mentioned as returning from a tour in the south of France or in Germany, after the manner of our itinerants, uniting in Saintonge the trade of painter on glass with the profession of surveyor; married, the father of a family, but miserably poor. He was then close upon thirty years of age. He was a Protestant, and a friend of the Seigneur Antoine of Pons, who had just returned from Ferrara, where he had married Ann of Parthenay. He chanced to see one of those cups enamelled with the milky and brilliant white of which we have already spoken, the secret of which it was supposed the Dukes of Ferrara possessed. This was the commencement of his anxieties, his struggles and his misery; but it was also the first step he made in the direction of renown.

We will quote Bernard's own words; but it is fair to state beforehand from which of his works we quote. They have a tone of feverishness and sourness always distinguished by a discreet sincerity, though sometimes satirical.

In 1562, Bernard Palissy published a work at La Rochelle; the following is the title: "The True Recipe by which all men in France may learn to multiply and increase their treasures. Item, those who know nothing of letters may here learn a philosophy necessary to all inhabitants of the earth. Item, in this book is contained the design for as useful and enjoyable a garden as can be seen or desired. Item, the map and plan of a fortified town, more difficult to besiege than any

that has ever been heard of—the work of Master Bernard Palissy, worker in clay, and inventor of rustic figures (figulines rustiques) to the King, and to my lord the Duke de Montmorency, peer and constable of France, living in the town of Xaintes." This title suffices to show us how excitable, active, and ingenious was the mind of Bernard. We have every reason to think that this "Recipe" was, if not written, at least sorted and put in order during the time he spent in prison. A high Calvinist and an eloquent orator, he had created in Saintes a church in which he was himself the preacher of the new faith. The edict of 1559, which punished the crime of heresy with death, did not

THE MARK OF PALISSY'S BOOK.
(The "True Recipe.")

shake his faith. In 1562, Parliament ordered the edict to be put in execution with regard to his sect; Palissy then undertook the defence of his companions in faith; but in vain. Notwithstanding the protection of the Count de la Rochefoucauld, general of the royal army, who had given the franchise to his workshop, Palissy was arrested in the night by the police, and taken off to the prisons of Bordeaux. He must inevitably have been put to death but for the timely intervention of the Constable de Montmorency, for whom he had executed some important works a few years previously. He was rescued, even when before his judges, by the patent bestowed on him by Catherine

de Medicis, of "inventor of rustic figures to the King," which in itself was sufficient to exempt him from the severe jurisdiction of Bordeaux.

This "Recipe" is a sort of apocalyptic work, a fanatical book in which we see allusions made to the fate of his friends and that of the reformed religion, difficult to understand, inasmuch as they are masked in the language of material works. It is written in the form of questions and answers: "Some time after that the emotions of civil wars had subsided, and when it had pleased God to send us His peace, I was one day walking along the meadows of this town of Xaintes, near the river Charente; and thus as I contemplated the horrible dangers from whence God had delivered me in the time of past tumults and troubles, I heard the voice of certain maidens who were sitting under some shrubs, and who were singing the 104th Psalm. Owing to the softness and harmony of their voices I forgot the thoughts which had occupied my mind at the outset. . . . ." And then he goes on to imagine a figure to his mind's eye as in a great picture, the beautiful landscapes suggested to us by the Prophet in this psalm, or else to make a garden or build a house or palace or amphitheatre for the reception of the Christians who were exiled in times of persecution.

It is in the title-page of this volume that the mark of the "True Recipe" is printed, and with the following motto: "Poverty impedes good souls in their progress towards success." Other publishers and printers had already adopted it; but it so well accords with the history of Palissy's life, his actions and his thoughts, that we cannot but think that it was intentionally selected by him. It was a drawn epigram, an apologue for weak minds as well as for poor bodies; it is to the poor much more than to the rich and powerful that the whole book is addressed. Agriculture, the fattening of land, the chemical composition of different kinds of clay or earth, the management and economy of forests, the formation of stones, the salutary influence of salts, and a hundred other curious topics are introduced in a dialogue which is at once sensible and satirical, with an abundance of detail that makes it intelligible to all. There is more than one popular error admitted without question, and more than one old woman's tale repeated as true; but still, in many places, one is conscious of the hidden presence of the man of science, who, when he reveals himself in his second

book, will deserve, more than did Cuvier, the title of "Father of Modern Geology."

Shortly afterwards Palissy started for Paris. The following pages are taken from the book he published in 1580, under this title: "Admirable Discourses on the Nature of Water-courses, both Naturally and Artificially produced: on metals, on salts and salines, stones, iron, and enamels. Together with several other secrets referring to nature. Besides this, a tract on marl, containing useful and necessary knowledge to all those who meddle with agriculture. The whole compiled in the form of dialogues, in which are introduced *theory* and *practice*, by M. Bernard Palissy, inventor of rustic figures and ornaments to the King and to the Queen his mother." This is the *résumé* of the course of lectures which Palissy commenced giving during Lent in 1575, and which he continued until the year 1584; for, besides his anticipation of contemporaneous facts, he was unwittingly one of the chief promoters of religious conference. With consummate good sense, and indignant with those whom Rabelais called the "distillers of quintessence," he warns the reader to "beware of the opinions of those who contend that Theory was the father of Practice," and he invites him to pay a visit to his small academy.

Eleven principal points are treated of in this book; namely, the waters of springs, rivers, &c.; alchemy, potable gold, mithridate, glaciers, divers kinds of vegetables and mineral salts, common salt, all precious and common stones, divers kinds of clay, earthen art and its usefulness, fire and enamel, marl and its utility. It is a very curious kind of encyclopædia. In it Palissy shows himself to be more learned, more addicted to hypothesis, and more clear than in his first book. The theory of mineral waters, of fountains, of fossils, light, the attraction of substances are there suggested,—as it were outlined by the very hand of genius. Examination of the philosophy of this work, so characteristically French, yet so little known, would be far more interesting and more national, as well as more popular, than the programmes annually drawn up by our academies on extremely quaint and intricate points of archæology.

The Art of working Earth, as we have already stated, is in the form of a long dialogue between Theory and Practice: "You promised some time back that you would teach me the art of working earth?" asks Theory, "and when you made me that long speech on

the subject of argillaceous earth,* I was much pleased, thinking that you would instruct me in all the branches of that art, but what was my dismay when I found that instead of continuing, you merely put me off till another day."

"Think you," replies Practice, "that a man of judgment is willing thus to divulge the secrets of an art which is of the greatest value to the one who has invented it? The secrets of my art are not as those of others. I know that an efficacious remedy for a plague or a disease should not be kept undivulged. . . . . But in mine, and in other arts, it is otherwise. There are many pretty inventions which men hold in contempt, because they are common." And then Palissy goes on, with warmth, to enumerate some of those professions which, from their close alliance with art as well as with industry, are peculiarly hindered —almost destroyed—by newer inventions, and the influence of strong competition; for instance, the art of making and colouring glass, the art of enamelling, sculpture, and that of the more learned portrait painters.

This passage has been much quoted by those who have wished to accuse Palissy of having a thin and narrow mind. Such persons have made no study of human nature; jealous of what it has acquired at the cost of strenuous labour, whether of a material or an intellectual sort. Do not parents manifest the greatest tenderness and affection for those amongst their children who have cost them the most care and trouble? Still less can the habits and customs of the time in which Palissy lived have been studied. Each corporation formed a dominion of its own, the frontiers of which were as carefully traced out as possible, which were only passed after a long and tedious apprenticeship. But this very brotherhood, and the admittance into companionship with it, did not admit of communicating its secrets without reserve; these were the property of the master, who only left them to, or shared them with, his eldest son or his partners. Methods were written out as seldom as possible, for fear of thieves or of treach-

* The treatise on "argillaceous earth" naturally precedes this one. It explains the nature and use of clay, and the process through which it goes when in the hands of potters and brickmakers. Palissy there recounts the misadventures of some image-carvers, who, instructed only by hearsay, "came and put their statues and busts, ill-dried and ill-prepared, into the furnace." When the furnace began to wax hot, it was amusing (and how we all did laugh!) to hear these images cracking and making detonations, as of batteries, among themselves, like a number of gun-shots, or the repeated firing off of cannon.

erous workmen; they were whispered in the ear, or communicated by hand, and in private. This is why so few of them have been left to us, and although chemistry reveals the constituent elements of a given thing, and reason helps us to guess at the series of operations through which it passed before it acquired its actual form, there must still remain a great deal of manipulation and handling by an experimental process that distracts the modern practitioner with doubt and fruitless speculation. The power of theory confronts the strength of practice at every turn, because practice is a mere fact, and this theory, which is the work of mans' brain, is relatively incomplete; a number of inexplicable details and rapid combinations present themselves, beyond the reach of the chemist's alembic and invisible to the microscope of the naturalist.

Palissy, therefore, as a workman of the sixteenth century, was right in being chary of revealing his methods; but as a man, we must remember that he was poor, isolated, and without instruction; we shall find that he, in great measure, made himself what he was. In his capacity of citizen and artist then, he must peculiarly have suffered from the tremendous shock given to the society of that period by the innovation of modern views and ideas. A Protestant, and suffering persecution, he was more than others keenly alive to the trouble in which society was gradually becoming involved, of which it can only now see at a distance the end. He gravely says: "The secrets of agriculture, the risks and dangers of navigation, the word of God, those sciences which are in common use to all mankind, should not be kept sealed." There are many noble exceptions which should incline us to be indulgent towards his irritable temper; when he speaks of the "moulding process, which has been prejudicial in the highest degree to clever sculptors, who may have spent long and weary years in producing the face of some prince or princess;" full of sympathy for him in the regret he expresses at having seen the history of Our Lady printed in large type, after the manner of a German named Albert,* which histories became so common, and of such little esteem, on account of the number of them, that one could be bought for a penny, notwithstanding the magnificent invention of printing."

* Albert Durer, painter and engraver, born at Nuremberg in 1471. He was one of the greatest geniuses of German art; one who figures highest during the time of the Renaissance, and therefore one who was most worthy of being appreciated by Palissy.

But this narrowness of Palissy's entails serious questions: "You can easily see by them, and a hundred other examples, that it is better that one man, or a small community, should make their profit out of some art, in living honestly, than that so large a number of them should constantly hinder and damage one another to so great an extent that severally they will not be able to earn their bread, except by profaning art; leaving things half done, which is the case with every art for which the demand is very great." Palissy here points out very forcibly the inconveniences and evils arising from what is called in these days competition. So long as it keeps within rational limits it is useful in social economy, because the older humanity grows, the more its material wants increase, and the more it seeks to satisfy these wants by augmenting the natural and manufactured produce of all kinds. But in speaking of art, and especially of that art which is superior to industrial labour, Palissy, if he sought only for absolute perfection, and for a public which would be worthy of comprehending it, was right; no half-finish, no flimsy likeness, should be suffered to creep in and be tolerated; those "half-completed works" are the disgrace of industrial art in our day; they corrupt public taste, giving it the habit of tolerating mediocrity, and being satisfied in sculpture with a shapeless block; in painting, with a mere sketch; in architecture, with stucco ornaments, false windows, columns supporting nothing; they immortalize that perpetual worship of tradition which causes things only to be esteemed whose merit is that they are old or rare. The weakness of these half-completed works is only, as the thinker of Saintes truly foresaw, "the result of the efforts of so many men who stand in each other's way." They produce quickly, and dazzle the public eye by their shallow fecundity, while men of genius are striving long and hard to complete and polish the ideal which in their solitude they have set up for their model.

Everything is set forth with earnest gravity in this prologue of the "earthern arts," or "art of working earth." Just as he is about to commence his narrative, Palissy is reminded of his past troubles. Once again, and for the last time, he begs his interlocutor not to ask him any more questions. He expresses the whole law of human work in that admirable precept which ought to be inscribed on the walls of every school, of every factory, and of every workshop: "First of all see that you are watchful, dexterous, active and hardworking."

And then, as one who is thoroughly cognizant of the stumbling blocks that lie across the path of the amateurs and inventors, he adds: "Secondly, you must have the wherewithal."

The narrative commences: "I had not much money, but I had the power of painting. It was generally supposed in our neighbourhood that I was more learned in the art of painting than I really was, and that is why I was often called upon to make figures for lawsuits.* Now when I was given this work I was very well paid, so I continued for a long time my trade of a painter on glass (*la vitrerie*),† until I felt sure I could make my living by exercising my art of earthenware." He was at that time weighed down with a wife and children.

"According unto your request, you must know that five-and-twenty years ago I was shown an earthen cup whose shape and enamel were so beautiful that it recalled to me the indignation I had felt at the sayings of those who ridiculed me at the time when I painted figures. Seeing, therefore, that these were no longer sought or cared for in my own country, and that the making of ornamental glass was no longer in great request, I bethought me that if I were able to discover the process of enamel, I could make earthen enamels and other beautiful works, because that God had endowed me with a certain knowledge of painting; and from that moment, without reflecting that I had no knowledge of argillaceous clay, I began to work and seek for enamels, like a man trying to grope his way in the dark. Without knowing of what these enamels were composed, I broke in pieces and pounded every description of material which I thought might be made something of. I bought a number of pots of earth or clay, which I also broke up, and in these pieces I laid my pounded stuff; then having marked them and put them apart, each mixture by itself, I made a memorandum of what each contained: this done, I built up an oven

* This expression of "figures for law-suits" is supposed to mean, "plans and maps for surveying."

† By the expression (*la vitrerie*) is meant the art of composing and painting cartoons for glass windows. As to the baking and arrangement of them, that is more obscure, for unless Palissy had written quite a little novel, how was he to explain the almost childish efforts he is going to tell us of, with regard to the baking process for his enamels. The construction of glass is analogous; the same series of bakings, more or less fierce, according to what was required by the colouring oxides or fluxes, is observed. Is it, then, to be supposed that he did not set foot in the very glass-factory for which he worked?

With regard to Palissy's paintings on glass, none have positively been authenticated.

according to my fancy, and put these pieces each with its own contents into it to bake, to see if I could not in some way succeed in producing any white colour, for white enamel was all I sought for, for I had heard it said that white enamel was the foundation of all other. But because I had never seen the process by which earth is baked, I did not at all know the degree of heat at which enamel will melt, so it was impossible that I should succeed by this means even had my drugs been the right ones; for sometimes I allowed them to heat too much and at other times too little, so when my materials were under or over-baked, I could not rightly judge of the reason why I did not succeed, attributing all deficiencies in my materials. In so doing I was committing a yet greater error than the last, for in placing my pieces into the furnace, I used no discretion as to the arrangement of them. After taking so much pains, and still finding my efforts fruitless, I continued day by day, and at the cost of great labour and expense, to make new furnaces and break up new materials, all of which was very wasteful both of wood and of time.

"After working thus imprudently for some years, with many sighs and much sadness, because I could arrive at no satisfactory result, remembering that it was all so much labour and money thrown away, I resolved, in order to be more economical, to send my materials and drugs to be proved in a real potter's furnace, and by his process; and with this intention I bought several earthen pots, which, having as usual broken in pieces, I successively filled with three or four bits of enamel, and sent them to a pottery about five miles distant from my house, with a request to the potter that he would oblige me by putting each piece into the furnace as it stood with its contents; and to this he willingly acceded. But when, having completed their part of the work, they came to take out my pieces, it ended again in loss and disappointment, because my scheme resulted in no success, owing to the fact that the potter's oven had not been sufficiently heated for my purpose, and that the pieces were placed into it without sufficient scientific knowledge. Then, again, I tried new combinations of material, always with much outlay and expense, and nothing but loss of time, vexation and disappointment.

"When I found that I could arrive at no satisfactory result with this my scheme, I gave the matter up for a little time, and devoted myself once more to my art of painting on glass, almost giving up

the pursuit of enamels and their secret. Some days after this,* certain commissioners deputed by the King to levy the duty on salt in the province of Xaintonge, called upon me to make a map of the islands and salt marshes of the surrounding district. When I had completed this commission, and found myself possessed of a little money, I was again seized with a desire to resume the pursuit of enamels. I broke up about three dozen new pots, and having pounded a quantity of new material, this time I covered the raw side of the broken pieces with a layer of my preparation, which I administered with a brush. You must know that out of two or three hundred pieces only three contained the same ingredients. This done, I collected all my pieces together, and took them to a glass manufactory, to see whether that process would answer better. It happened that the heat of these being much greater than that of the potteries, having put my pieces on the fire one day and had them withdrawn the next, I found that some of my ingredients had partly melted, so this was an inducement to continue the search for white enamel at which I had so perseveringly worked.

"With regard to the other colours I did not trouble my head about them; the mere approach to the result I looked for was sufficient to induce me to work on for another two years, in the which I did little else than walk to and from the workshops of the neighbouring glass-makers. Thus did God try to discourage me until one day when I had made up my mind not to persevere beyond this once, having with me a man laden with more than 300 sorts of pieces prepared for trial; one of these, after being four hours in the furnace, turned out to have melted, and to be covered with a white and polished surface; at which my joy was so great that I thought I had become a new creature; I thought, too, that I had attained perfection in the making of white enamel, but this was far from being the case. In one way the result was good, but in another it was of little use! good, inasmuch as it was a beginning of better things, and comparatively useless, because I could not secure the same success for a piece of larger or lesser proportion.

"In those days I was so foolish, that having at last succeeded in obtaining a white enamel which was peculiarly fine, I forthwith began to make earthen pots without knowing anything of pottery; and

* Towards the year 1543.

having spent seven or eight months in the making of these, I set to work to build myself a furnace like those of the glass-blowers, which caused me indescribable labour and trouble, for I had to be my own bricklayer. I had to fetch and carry the water, and to make my own mortar. I had, too, to fetch and carry the bricks I required on my own shoulders, because I could not afford to pay a man to help me. I managed the first baking, but for the second no one will believe the trouble and vexation I underwent. For, instead of resting from my labours, they increased, and it took me more than a month, working night and day, to crush and pound sufficient of the material wherewith I had made that beautiful bit of white enamel at the glass furnace. When I had accomplished the pounding of all the necessary ingredients, I covered the pots with it, as I had done before. Then I introduced the fire into my furnace by two openings, as I had seen it done by the glass-workers. I spent six days and six nights before this furnace, incessantly feeding it with wood through these apertures, and that without any result at all, so that I was like one who despairs: I was as one bewildered, too, with over-fatigue. I then came to the conclusion that, according to my arrangement, I had put too little of the melting substance upon the other, of which there was too great a proportion, and seeing this, I recommenced breaking it all up again, albeit without allowing my furnace to get cold, for that would have given me double trouble, so I did nothing but break, pound, and heat the furnace.

"When I had put my ingredients together, I was obliged again to buy pots wherein to prove them, having sacrificed those I had previously made; and when I had covered the new ones with my composition, I placed them in the oven, being careful to keep it at an equal degree of heat; but, in order to do this, I was much grieved to be obliged, in default of sufficient wood—for my supply was at an end—to take the supports of my garden paling for fuel, and when they were spent, I was constrained to use the very tables and planks that were in my house, in order to accomplish the second baking. I cannot express how greatly this extremity pained me; besides this, I was lean and dried-up, from the heat of the fire and the hard work. For more than a month I never gave my clothes time to dry upon me, and, in addition to this, people laughed me to scorn; even those who had it in their power to assist me went about saying that I was destroying

and burning my house. By this means all credit was taken from me, and I passed for being a madman.

"Others said I was trying to coin false money, which imputation so afflicted me, that I felt, as it were, shrivelled where I stood, so that I went about the streets with bended head, like one ashamed. I had many debts, and generally two of my children out at nurse, and without the means of paying for their board and nursing. No one succoured me, but rather the reverse. I was laughed at, and people mocked me, saying: 'It serves him right that he should starve, because he neglects his trade.' All this came to my ears when I walked in the street. However, I had still hope, which supported and encouraged me, inasmuch as my last experiments had to a certain extent succeeded: thence, I hoped to be able to make enough money to live upon. How greatly I was mistaken, you will hereafter learn."

In the collection of Sir Anthony de Rothschild, in London, there is a medallion which is supposed not only to be the work of Bernard Palissy, but also his portrait. This last supposition, however, is altogether gratuitous. Nothing goes to prove that it represents Bernard rather than any of the men of his day, either illustrious or obscure. On the contrary, there is the strongest presumptive evidence that the portrait we here produce is authentic. It is a water-colour on vellum, which was purchased last year by Mr. E. du Sommerard, for the Museum of the Hôtel Cluny. The execution of it evidently dates from the time in which Palissy lived. The name, written in gold letters above the head, indicates the fixed design of the artist to draw the attention of posterity to the effigy of an important person, of whom he took particular pains to produce an exact likeness. The dress is simple but sufficiently ornamented with gold trimmings for it to have belonged to one who possessed the official title of "inventor of rustic figures to the King, and to the Queen, his mother." The face looks worn, and the expression is sad and meditative; the forehead is very high, and evidently that of an inventor and a man of genius; the general expression suggests great refinement of mind; that of the mouth is sardonic; and, lastly (a detail that many would pass without observation, but which to us is of mysterious signification), in the left eyebrow there is the scar of a large wound. It is not our intention to become romantic, but who knows whether this cut was

not the result of some splinter from that stone, which "crackled like thunder, and was as sharp as a razor?"

He continued: "After resting some time from my labours, lamenting that none had compassion upon me, I said unto my soul: 'What is it makes you sad, since you have found what you sought? Work now, and you will put your abusers to shame!' But to this my mind replied: 'You have nothing wherewith to pursue your object; how will you feed your family, while you spend the two or three months which must elapse before you can enjoy the fruit of your labours?' While I was in this distress and trouble of mind, hope gave me a little courage, and, having considered how long a time it must evidently take me to make another furnace-full with my own unaided hand, in order to save time and bring my discovery to light all the sooner, I engaged a common potter, and I gave him certain portraits as an inducement to him to make me some pots to order, and while he was making these, I busied myself with making a few medals.* But it was a pitiable thing, for I was obliged to feed the said potter at a tavern on credit, for at home I had nothing to give him.

"When we had worked for the space of six months, and it was time to bake the work that was done, I had to build my furnace and dismiss the potter, whom, for want of ready money, I was obliged to pay in clothes of my own. But I had no material wherewith to build my furnace, so I was compelled to pull down the one I had previously made after the manner of the glassmakers, so as to be able to use the same bricks for this one; and, because the old furnace had been so greatly heated for six days and six nights, the mortar and bricks of it had become liquefied, and, being hardened again, were like glass; so sharp were the edges, that in handling them I cut and pierced my hands in so many places, that I had to eat my dinner with hands bound up in rags. When the old oven was demolished, I still had the new one to build, which I did not do without great trouble, especially as I had myself to fetch all the water, bricks and mortar, without assistance and without rest.

"When this was done, I put what I had prepared to bake, and

* By the word "medals," we must understand "ornamental medallions," profiles of heroes, or of divinities, which Palissy modelled in clay to be afterwards enamelled. Some of these exist in many collections. They were intended to ornament certain grottos, of which we shall speak later on.

then, either through borrowing or otherwise, I contrived to obtain the materials necessary to produce enamel, the first trial having succeeded. But when I had bought the said materials, I had such a job as I had little anticipated; it nearly killed me. For, after tiring myself out with several days' work, so that I thought I could no longer continue to pound and crush my ingredients, I found myself compelled to break them up by means of a hand-mill, which I had to turn alone, whereas it was hard work for two strong men to move it; so great was my desire to succeed in my enterprise that I accomplished things that I had before thought to be impossible. When the ingredients were well crushed and pounded, I covered my pots and medals with them, and when I had disposed and arranged them in the oven, I began to make up the fire, believing that I should afterwards withdraw three or four hundred francs' worth from it; so I continued the fire at the same proportion of heat, until I should get some indication of the enamels having melted, and my collection in good condition. The next day, when I came to take out my work, having first been careful to remove the fire, I was altogether put out of countenance by what I found; for, however excellent my enamel may have been, two accidents had occurred which spoilt the whole. I will tell you what they were, that you may keep clear of them. The mortar which I had been compelled to use was full of flints, which, from the great heat of the furnace, had cracked and split into a thousand pieces, filling and covering my enamel when it was in a liquid state and capable of retaining the same, so I found what would otherwise have been a tolerable success disfigured by fragments of pebbles.

"Being thus convinced that my furnace was properly heated, I allowed it to get cold until the next day, when, upon reflection, I scarcely knew which way to turn, for my experience had altogether cost me more than six and twenty gold crowns. I had borrowed the wood and the clay I had used, and had even taken on credit the food I had needed during my work, promising to repay it all with the profits I expected to make my work produce; so that the very next day several of my creditors presented themselves, even before I had withdrawn the contents of my furnace, in the hope of immediate payment. This added yet more to my distress, insomuch as their presence renewed my shame and confusion; for all my pieces were sprinkled with small bits of stone, which were so firmly stuck in and so sharp-edged that

in passing the hand over them they cut you like razors. And what a loss it was to me no one can tell; for although some would buy my work at a very low price, I felt that it would be a disgrace to my art to cast abroad these inferior productions—a disgrace to my honour; so I broke my work in pieces in a state of great depression, and not without a cause, for I no longer had any means of supporting my family. At home I met with nothing but reproach and blame; instead of consolation I only received abuse. Having heard I had broken all that I had made, my neighbours said that I was mad, for that I could, at any rate, have made as much as eight francs out of what I had taken."

What an indomitable soul! Nothing dissuades him from pursuing his object; neither misery, nor insult, nor the ill-success of his attempts, nor, what is most stinging of all, the reproaches of those for whom he was working,—reproaches that wring the soul, and are as the sponge on which the mocking soldier presented vinegar to the lips of Jesus. What invincible reliance on himself he must have had, and what faith in his ultimate success to be able to withstand such repeated misfortunes! It is like that of those martyrs who seemed to see before their earthly eyes the ideal which their brain had conceived. Palissy went forth to the discovery of his enamels with as firm a step as did Columbus towards the new world. One saw in his mind's eye the shining surface of his medallions, his dishes ornamented with reptiles and creeping things, and his busts, as clearly as the other in imagination perceived the bending cocoa-nut trees and the blue horizon of the country he believed to exist; calm and self-possessed in the midst of opposition and revolt. Such, again, was Joan of Arc until the day when her heroic commission was accomplished.

"When I had passed some time in bed," continues Palissy, "and after having communed with myself and come to the conclusion that when a man has fallen into a ditch it is his first duty to try and pick himself out of it again, being myself in a similar position, I began to do a little painting, and by degrees I made sufficient money to pay off my debts. But in baking another furnace-full another misfortune befell me which I had little foreseen: the vehemence of the flame thrust a quantity of dust and ashes against my pieces, and the enamel being in a liquid state, they stuck to it, rendering my surfaces rough and unsightly. Notwithstanding this, I had a good hope of eventually

getting up in the world by means of the said art; and to this end I had a number of earthen lanterns,* made by a neighbouring potter, with a view of preventing the recurrence of the above calamity. I put my pieces into them, and thus they were protected from the adhesion of the cinders. This scheme succeeded well, and has been in use unto this day."

Thus he continues to recount his misfortunes, and one can scarcely find any other clue to his perseverance, even after the failure of so many tentative and solitary efforts, than that which suggests his fear of divulging to his fellow-workers the secret which he paid for so dearly. It is certain that the potters and glass-workers could speedily have spared him his disappointments, which he here somewhat proudly recounts with all the self-reliance and ostentation of one who has suffered much, and who owes his success to himself alone.

He goes on to say: "And so I continued battling with adverse circumstances for the space of fifteen or sixteen years; whenever I had succeeded in obviating one source of failure, another presented itself where I looked not for it. At last I hit upon the way of making several vessels, which were a sort of mixed enamel like jasper, and the produce of this fed me for some years; but I was always thinking how I could go beyond. When I had invented how to make rustic pieces, I was more annoyed and dispirited even than before; for when I had made various rustic basins and bowls, and put them into the furnace, I found that some of my enamels had succeeded and melted well, whilst others had done badly; some also were burnt up, and all because they were composed of different materials in different proportions; some being more or less fusible; for instance, the green colour of the lizards would be burnt before the brown of the serpents had even melted; and again I found that the colour of the serpents, crayfish, tortoises and crabs, had melted before the white colour had arrived at any degree of beauty."

At last, what with repeated mortifications, scenes of social troubles, and hostility of feelings, fatigue and disappointment, and physical dis-

* In these days the "lanterns," of which our enterprising potter appropriates the invention, are still in use. The French word for them is "cazettes," and the English call them "seggars." They consist of reversed earthenware cases, in which are placed specimens of fine and delicate porcelain, or of decorated faience, and which then are placed into the oven, or furnace, until it is quite full.

organisation, exhaustion supervened: "All these drawbacks," he says, "caused me such trouble and vexation of spirit, that, before I had succeeded in reducing my enamels to a fusible condition over a given heat, I myself was at death's door. For the space of ten years I was in so emaciated a condition that my legs and arms had no longer any form or substance; they were straight from the top to the bottom. I was so reduced that my clothes would no longer keep on me; my garters fell to my ankles as soon as I set foot to the ground. I often went to walk in the meadows of Xaintes,* and pondered over my misery and misfortune, especially because nothing that I did was approved of in my home. I had no peace or quietness there; I was scorned and laughed at. Nevertheless, I continued to make a few vessels of divers colours, the sale of which kept me alive in one way or another, and the hope of ultimate success was so strong in me that many a time, when persons came to see me, I put on a cheerful countenance to entertain them, when in reality God knows how sad I felt!

"I persevered, however, so as at last to be able to make a good deal of money from one branch of my work; but another grief was in store for me: I found that, owing to the influence of successive heat, cold, wind and rain, sunshine, and exposure of every kind, a great portion of my work was spoilt before ever it was baked; and so often was this the case that I was constrained to borrow woodwork, laths, slates, and nails, in order to preserve my productions. Sometimes, when building materials failed, I had to be content with substituting branches of trees and ivy for them; so that whenever I found myself in the possession of a little means, I used to pull down what I had built up, and build it better. For this cause other artizans, such as cobblers, shoemakers, constables, and attorneys, and a number too of old gossips, without reflecting that my art could not be carried out without a good deal of space and room, went about saying that I did nothing but alternately build and demolish, so that they blamed whom they ought rather to have pitied, seeing that I had to spend on my art what was necessary for my food; and, what was more to endure than aught

* Xaintes, or Saintes, capital of Saintonge, now in the province of the Charente-Inférieure," one of the strongholds of Calvinism. It is a very picturesque town, where are to be seen vestiges of Roman dominion; the remains of an amphitheatre, of a triumphal arch, &c., &c.

else, these taunts and mockeries were originated at home, where people were so senseless as to maintain that I ought to do my work without tools, which was more than unreasonable; and the less reasonable it was the more it pained me. For several years having nothing wherewith to cover my furnace, I was all night exposed to rain and wind without help, succour or consolation, except from the owls which shrieked on one side of me, while the dogs howled on the other. Sometimes the wind blew over and under my furnace with such violence, and the tempest was such that I had myself to give up work, and leave all to their mercy, not without much loss of time and trouble. Several times it has happened to me that, having been compelled by heavy rain to sacrifice my work and leave it, I have gone indoors to bed with not a dry thread about me at midnight, or at break of day as dirty and drenched as one who had been dragged through the ditches and slums of the town; and even then I had without any light to seek my way in the dark, stumbling and knocking up against things like one intoxicated, sad and grieved at heart in that, after long labour, I found that I had worked in vain. And when, drenched and soaked, at last I reached my chamber, I found there a still greater persecution, which now makes me wonder that I am yet alive, and not consumed with sorrow."

Here this dramatic and picturesque narration finishes. In it the real nature of the man is entirely visible, but the artist and seeker are not made manifest. "Mrs. Theory," who has listened to this "long story" with more patience than interest, because Science has *brain* instead of *heart*, is not to be deceived or put off: "You have made me a grand discourse concerning the faults and drawbacks which attend the art of earth, but they only serve for frightful examples to me; for you have as yet told me nothing of the process of making enamel."

"The enamels which I make consist of tin, lead, iron, steel, antimony, zaffre, copper, sand, samphire, granulated cinders, litharge, and of stone from Périgord," replies Practice. She might have answered nothing at all as far as the other is concerned, but she adds: "The result of the mistakes I made in mixing all my enamels in given quantities, taught me more than did my successes. Therefore I presume that you are working to discover what these quantities should be, just as I did, for without this trouble science would be too

cheaply got, and you might sink into contempt of it." A saying full of profound meaning; under a mask of irony it is a formula of the deepest good sense, which comprises consolation in all trials, and the secret to all the successes in life.

The "Art of Earth" concludes with a virulent declamation on the part of Dame Practice against Dame Theory, who has had the impertinence to make mention of the noble terrene art as of "an art mechanical, with which it is not easy to dispense." Dame Practice enumerates all the professions which are connected with it, either by

GOBLET ORNAMENTED WITH FOSSIL SHELLS.
(Louvre Museum.)

theory or practice, gives an elaborate history of it, and concludes with this master-climax: "Historians assure us that when the art of earth was invented, it threw vessels of marble, alabaster, chalcedony, and jasper altogether into contempt!"

We have stated that it was in Paris, in 1580, that Palissy published his "Admirable Discourse," and also there, that, from 1575 to 1584, he opened what we call his conferences, or lectures, excusing himself with modesty, and with truly Gallic irony, that he only possessed good sense and experience, without knowing either Latin, Greek, or Hebrew. He had collected in one room all that could serve

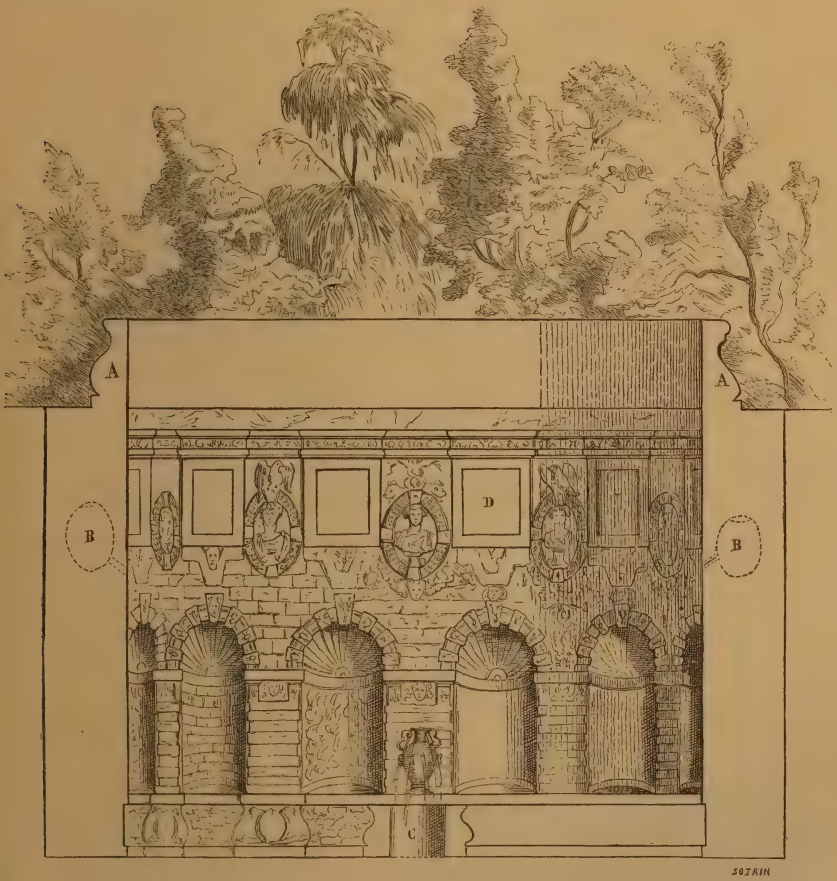
to demonstrate his theories in chemistry, natural history, geology, mineralogy, and mostly, no doubt, with specimens of those petrified shells he has used so abundantly for the decoration of his pottery, and which belong chiefly to the basin of Paris, as did also his reptiles, plants, and fishes. He has kindly left us some illustrations of this period, such as portraits of doctors or artists, for example, Ambrose Paré, or Barthélemy Prieur, who followed his course of lectures, neither interrupting nor contradicting him on any one occasion. Palissy had bills printed and stuck about Paris, the price of admission being three francs; rather a heavy sum for that period.

We are probably only acquainted with the secondary, or commercial, portion of his work. Even if these rustic basins, these dishes, overcrawled with reptiles, these ewers and goblets covered with shells, these scooped-out plates, these candlesticks, these pavements enamelled with biblical or mythological subjects, these statuettes, the authorship of which is uncertain, did not suffice to assert sufficient originality of mind and workmanship in him, we should have, in addition, the writer, the man of science, but especially the man of indomitable perseverance and energy.

But for the sake of justice, as well as to explain the favour which he enjoyed among his contemporaries, we must add that he owed his certificate of "inventor of rustic figures to the King, and to the Queen, his mother," to certain rustic grottos, works which, from their decorative quality as a whole, corresponded with what was held in such high esteem by della Robbia. An Italian romance of the day, full of love and lovemaking, called the "Dream of Polyphile," and which had an immense vogue at that period, may have suggested his idea, but with regard to the execution of it Palissy must have inspired himself almost directly from the stucco ornaments, the wreaths of flowers and of fruits, and grotesque terminal figures, which, especially at Fontainebleau, framed the compositions of the Rosso or the Primatice.

In the first years of his struggle, towards 1562, he had accomplished at the Castle of Ecouen, for his protector, the Constable Anne of Montmorency, one of those works of his new and marvellous invention. It is also well known that he decorated with them the Parks of the Castle of Reux, in Normandy, and of Chaunes, at Nesles, in Picardy. A drawing of the time, which has been preserved by a distinguished architect and amateur, M. Destailleurs, will enable the

reader to form a tolerably correct idea of the interior of these grottos, places for repose and rest, well worthy of pleasing the taste of that Renaissance which showed itself to be at once so childish and so refined.



DESIGN FOR A GROTTO, BY BERNARD PALISSY.

(In Mons. Destailleur's collection.)

A. The margin, or leaning-stone.—B. The receptacle for water. C. The fountain.
D. Places for medallions.

It was a large ornamental structure, scooped out of the ground; one might descend into it to walk and cool oneself, but I imagine that it was when leaning on the balustrade above that one was best able to

enjoy this whimsical and brilliant picture; the walls of it were made to imitate rocks roughly hewn with a pick-axe; the arched ceiling was supported by columns and pilasters; medallions formed projections at intervals, where busts of heroes were raised on small pedestals. In the centre there was a fountain that played, and seemed to lend life and animation to a world of reptiles and fishes lying unperceived until the eye became accustomed to the semi-darkness of the spot. On the gravel, seen through the translucent water of the stream, a carp or two, and a pike, or jack, heave lazily; a snake along the edge pursues a frog, a lizard is watching a butterfly, while a tortoise drags on its weight, and amidst soft mosses and bending reeds, in the bed of the stream, you see a crab and crawfish gliding. The tender, nature-loving soul of Palissy has forgotten nothing. He has left us a written description and plan of the grotto: "There is a series of rustic benches and seats. Above the arch," he adds, "I would plant fruitful trees and shrubs, and grasses bearing berries, and seeds, of which I know the birds to be fond, that I may accustom them to come and settle there and sing their little songs, in order to give pleasure to those who are walking inside the said grotto and garden." In another place he wishes that all the creatures he has sculptured and enamelled should be placed in a spot accessible to nature, so that natural serpents or lizards should often come and admire them. It is well ascertained —hence, no doubt, came the epithet, Bernard des Tuileries—that Palissy executed a grotto similar to the one we here described, at least in its principal features, for Catharine de Medicis. One of the greatest, because most erudite, in research, M. de Montaiglon, found an estimate for the building of four bridges he was to have erected there, which would lead one to suppose that the grotto was to be placed in the middle of a basin or water-course. These estimates, dated February 22, 1570, indicate that the master potter had two assistants, who, if not his sons, were of his kinsfolk, by name Nicholas and Mathurin Palissy. Remains of this grotto were discovered in 1855, in the digging of a trench to repair the garden fountains. They were carried to the Ceramic Museum at Sèvres, which already possessed the capital of a column.

Ten years later, in August, 1865, chance brought to light what were, conjecturally, the very ovens and moulds Master Bernard made use of. In searching the Cour d'honneur, at the spot where the

works for the rebuilding of the gallery of the Louvre cease, and the foundation of the new apartments of state are laid, the navigator's pickaxe came against some old brickwork; the bricks here and there were vitrified, there were seggars, and, further on, two furnaces; in the one on the left side were large fragments of moulds. The moulds cast from human faces, or from plants and divers things, leave very little doubt as to their origin. One of them gives the relief of a bust formed entirely of shells; others, that of members, drapery, and pieces

HAND-CUP, OR GOBLET, WITH NATURAL LEAVES.
(In Baron Samuel de Rothschild's collection.)

of striped material. Now, in the manuscript memoir in the possession of M. B. Fillon, amidst other fantastic objects destined to compose the rock of the fountain, Palissy offers to the Queen, "a terminal figure made up of sea-shells, the nose, the mouth, the chin, forehead, and cheeks, and all the rest of the body: item, three or four with strange garlands and head-dresses," &c. These moulds have been carefully preserved. Who knows whether, in carefully searching the gardens of the Tuileries, we may not some day find a portion of the grotto itself, for, having passed out of fashion, may it not have been buried out of sight?

any splendidly rare specimen of which, perhaps, about ten copies may be extant.*

Perhaps, however, it is we who look too closely at things which were only intended to be seen at a certain distance, and produce a general effect. It is possible, too, that these basins were not intended to be the ornament of dressers and shelves, but rather to be placed flat on a table, and filled with water. This curious fashion, quite in accordance with the taste of the period, may have been suggested by a passage in the "Dream of Polyphile," which may have impressed Palissy's imagination; in the fountain where Polyphile bathes in company with the five nymphs, which was all decorated with mosaics, "the water was so limpid and clear, that, in looking into it, one might have fancied the fishes to be really in motion, they were so excellently imitated; carps, lampreys, perch, trout, crawfish, and many others." Either Palissy or some one of his imitators has cast, in tin, the "Ewer of Briot" and his round dish of "the Four Elements." I could, therefore, without much regret, see them eliminated from his works, but not so his dishes and plates with fruit, with flat wide margins, where in the centre stands a figure of Charity, or the female gardener, or else Vertumnus and Pomona. Together with his rustic basins, his large decorated medallions will remain to him, like the Galba, the basins belonging to M. Andrew Fontaine, and the fragments at Sèvres, and also those charming plates for fruit, ornamented with grotesque masked figures, alternate with little flowers or a thick twisted cord, like a widow's girdle. Should we restrict his works to those of a more sober taste, it would in no way diminish their merit, and the respect with which he is already regarded by serious minds would only be enhanced and increased.

* Mons. André Pottier, of Rouen, in his "Inédited French Monuments," tells of a process of moulding of which he found the secret in a work without a title, dated from the end of the sixteenth century: "In order to prepare the composition they used a tin dish, on the surface of which were stuck, by means of Venetian turpentine, the leaves with veinings, the shingles from the river beds, the petrified stones and shells, &c., to be reproduced; then they were sorted and arranged in their destined places, and fixed by means of a fine thread which tied them on, and then passed through to the other side of the dish, which was perforated with a long skewer or needle. Then the mould was cast in fine plaster."

The thickness of Bernard Palissy's reliefs is always slight. Mons. Avisseau, junr., (for the father, whose biography is so touching but so little known, has been some time dead) in order to execute his masterpieces uses no mould. He merely models his figures and animals. His sister models flowers and leaves with charming elegance and grace.

In this classification, which is rendered imperatively necessary by the memory of our great inventor of rustic figures, we must be assisted by the mark of a fleur-de-lis, B, which Monsieur A. Tainturier was the first to identify, printed on the reverse side of some of Palissy's works, but we may more certainly be guided by exercising our critical judgment with reference to authentic documents on the subject. Thus, it is hardly probable that a determined Calvinist should have employed his time in producing images of saints. This repugnance is easy to prove in the writings of a jeweller, designer and engraver

A PALISSY DISH CALLED "CHARITY."
(At the Louvre Museum.)

of the highest ability, who lived at Paris at that time, and with whom Palissy was probably acquainted; his name was Étienne Delaulne.

A passage in the "Diary" of Heroard, the first medical attendant of Louis XIII.'s childhood, mentions his works; and, although it does not positively assert that Palissy was the author of the "Wet-Nurse," which is the most exquisite, both in sentiment and workmanship, of those which are attributed to him, such as the "Child with Dogs," or the "Hurdy-gurdy Player," &c., it goes to prove that the moulds he

used were still in existence in 1604, and that a potter of Fontainebleau took casts from them. Besides, the costumes of these figures and groups, which have no other claim to interest than their rareness, seem to be subsequent to the time of Palissy.

But we must in all haste screen him from the charge of being the author of that dish with the ill-grouped and ill-executed figures of Henry IV. and his family.

When this Béarnais reigned, Bernard Palissy had been long dead.

THE NURSE.
(At the Louvre Museum.)

Where, and how? In a dungeon of the Bastille, as if Destiny had esteemed him worthy of the martyr's palm, in recompense for so persevering and laborious an existence.

It is supposed that it was in 1589 (for the date of the death of the great workman is scarcely better ascertained than that of his birth), that, a prisoner in the cause of religion, that soul which yielded neither to failure nor misery, nor to the humiliation of imprisonment, nor the menaces of a king, quitted life. He was over eighty years of age when he died. It is recorded by the Sieur de Aubigné, that the previous year

Henry III. visited him in his cell, and excused himself for thus being constrained to leave him to the mercy of his enemies. "Sire," answered Bernard, "I am ready to give up my life for the glory of God. Thou hast often told me that thou art sorry for me, but it is I who am sorry for thee, who hast pronounced those words: *I am constrained!* Sire, these are not the words of a King. I can do more than thou, or those who constrain thee, the partisan of the Guises and all thy people, for I, Sire, know how to die!"

PALISSY FRUIT PLATE.
(In M. Dutuit's collection.)

Are not these noble words, full of the deepest meaning, and would it not be well if the sayings of the Greeks and Romans were to be for a time laid aside, and this one taught in their stead, in the schools and to the rising generation of France?

The work of Palissy—inasmuch as it was an application of coloured enamel to earthenware—had, even in his day, and in almost every province, imitators and copyists. In our day a potter, who was also an indefatigable seeker and collector, has reproduced a part of his work.

More than one forger has attempted to obliterate the blank stamp, which reproduces his name PULL, and which he prints in the paste or clay, on the reverse side of his products. M. Pull is, therefore, in no way responsible for all of them.

He is like those Palissys of yesterday, who make such correct facsimiles of originals that one cannot recognise the true piece, except by its characteristic lightness, which at a touch is perceptible. We may also mention that the details, such as the flowers, masks, grotesque figures, rope ornaments, &c., are less delicate and less distinct in the spurious imitations; and (excepting in the jaspered ones) the enamels are less in harmony, especially the green tints.

The works of Palissy have reference to a special taste and a special fashion. They had not that general character which indicates the opening of a new art to a whole epoch. They were personal, they almost died out with the "earthenware worker" who had practised and introduced them, and with the century that saw them flourish. That which answered the purpose of a real and actual requirement was the art of decoration applied to articles for daily and common use. Having been originally imported into France by Italian workmen, it rapidly transferred itself into a national thing, the history of which, however concise and brief, we should pause to contemplate.

It is quite evident that, for every-day and common occasions, glazed or enamelled earthenware was always in use, the process being carried out with lead or tin varnish; it is quite clear, too, that the kitchen and domestic ware in feudal times cannot have been in any way similar to that off which Jacques Bonhomme cut his black bread. Towards the year 1580, a species of ware was made at Lyons "after the Viennese fashion." But it was only in the latter years of the sixteenth century that ornamental "faïence," made in France, succeeded in competing, with any degree of success, with plate, as it had done in Italy.

Louis of Gonzaga, when he established himself in the Duchy of Nevers, which was his wife Henrietta of Cleves' wedding portion (she was one of the three Graces at the Court of Charles IX.), summoned to him various Italian potters, who, finding the materials placed at their disposal to be excellent, produced majolica scarcely distinguishable from the more inferior of Urbino. The founder of this dynasty of Franco-Italian Ceramic artists was named Dominique Conrade.

The most remarkable specimens of that period, which only offer a purely historical interest, are now at the Hôtel Cluny; especially an immense basin or fountain, the handles formed of twisted serpents and of maritime gods distending themselves in the water. Later on, Nevers imitated these potteries that Venice had herself borrowed from the East; the ground, of a lapis blue, is much veined and streaked with white, or traversed with grotesque figures in yellow. The charming square we here reproduce is similarly decorated. It was brought away from the little castle belonging to the Dukes of Nevers, and which now is destroyed. Later still, comical Chinese figures, traced in manganese violet colour, stand opening their sun-

ENAMELLED SQUARE, TAKEN FROM THE CASTLE OF THE DUKES OF NEVERS.

shades and fans in the midst of impossible scenery. The Custodes succeeded to the Conrades. All these, with only a very few exceptions, were unworthy of detaining any amateur of delicate taste. The statues and statuettes of the local saints are coarse, and the ornamentation of them is hard and roughly executed.

Monsieur de Champfleury has, with much sense and observation, brought forward the real character of the Nevers ware; it is essentially a vulgar sort of crockery from its very popularity; and this is peculiarly shown by the mottoes it selects. During the eighteenth century

it accepted all the popular songs and sayings, all the *bouts-rimés*, which in our day, especially in France, are bestowed only on reed-pipes or dessert-crackers. It was the custom to have them engraved by couples setting up house, together with the patron saint of either or both. Pieces were presented to the parish priest, bearing upon them the representation of the seven sacraments, to which in his affections matrimony had never succeeded. It was on the pedestal of a figure of Bacchus astride on a tub, with a leg on either side of it, that Victor Hugo scribbled these lines in pencil:

"Je suis fort triste, quoiqu'assis sur un tonneau,
D'être de sac à vin devenu pot à l'eau."

Monsieur Champfleury has collected a whole series of plates and salad-bowls, with the help of which one may follow, month by month, the successive movements of the public mind, from the first gleams of lightning which announced the approach of the revolution of 1789, even to the year 1793, when thunder rolled and the storm was at its height. One rather singular fact is that, at the time when the tri-coloured flag waved triumphantly, and everywhere inspired public and patriotic legends, such a colour as red did not exist on the palette of the potters of Nevers, so that it had to be replaced on crockery by yellow; the tricolor consisting, therefore, of white, blue and yellow. This whole series, which has well deserved to be denominated as "speaking ware," is actually more eloquent than the prose writings of many authors, who contemptuously pass over these naïf and robust records of French history.

The greater part of the Nevers furnaces gradually went out, one by one, from the first years of that century. Porcelain for the higher and better classes, and pipe-clay for the use of the poor, caused faïence to become quite forgotten. That of Nevers was composed of a kind of pliable clay which may be taken as a type, because it is the lightest and the most sounding, as well as that which can best bear extreme heat, and which, when that is done, presents the most homogeneous effect.

The paste is formed of a mixture of two kinds of clay, composed almost exclusively of silex and aluminum, with a small quantity of carbonate of lime; the one is of a greenish whity-brown colour, and the other of a brownish-yellow mixed with lumps of dark grey,

and containing a small quantity of carbonate of lime. The proportion of this to the other is from two to three-fifths. They are thrown into a large basket, which is emptied into a larger square case, which is supplied with water from a reservoir above; these ingredients are then mixed together by means of a wheel and shaft, set in motion by horse or water-power. This in French is called the "patouillage" or "treading down."

The enamel of Nevers is very compact; it is composed of lead, tin, sea-salt, and a sort of sandstone found at Decize, in that neighbourhood; it is previously pounded in a mill. The enamel is produced by suddenly plunging the piece, which has already been transformed into biscuit paste, by once baking, into a liquid slightly thickened with a

A PLATE WITH PATRIOTIC EMBLEMS.

kind of dust made out of the breaking up and mixing of the elements above mentioned, and is far from being the same for enamel as for porcelain. This biscuit, being porous, quickly absorbs all the liquid part of the combining matter, leaving on the surface a sort of farinaceous substance resembling coarse flour. In this state the piece is transported to the decorator's studio.

Almost every kind of decoration—except that which pertains to commercial mottoes and signs, and also to certain methods belonging to lithography or chromo-lithography—is executed from a slight distance,

that is, with the hand raised above it by means of a long pliable thick but finely-pointed brush, made of the outer hairs of the interior of cow's ears.

Besides a thorough knowledge of how to modify certain tints, which often vary from dark to light, and from brown to rose-colour when passing through the drying influence of the furnace, the decorator must be possessed of great lightness of touch. This porous surface, greedy of moisture, will not bear re-touching. The painting must be effected with flat wide touches.

In this consists the incontestable superiority of the furnace-heated faience over the porcelain and crockery of the muffle kiln, such as those of Marseilles or Strasbourg; on these last the decoration remains almost entirely on the surface, it is caught in between two kinds of glass; in the former, on the contrary, it has penetrated so deep as to become incorporated with the mass. Such are the porcelains and pottery of the East, the faience of Nevers, Moustiers and Rouen. Besides this they have the practical advantage of resisting friction, because all its decorative colours have completely melted by being subjected to so high a temperature, and are absolutely glazed on the surface.

At the present day there is still one manufactory of great commercial importance at Nevers, that of Monsieur Signoret. Although but little of decorative art is baked there—for notwithstanding great encouragement from all sides, the architects dare use it but very moderately—it was in that factory, which employs a considerable number of hands, that the entire ornamentation of a house at Bernay, in Normandy, was made of late years. We have seen and been over it, and we can assure the reader that nothing could be more cheerful or agreeable to the eye than those pavements bearing the initials or name of their owner, those incrusted plates on the frontages, the coloured balustrades and balconies which look out on the court-yard and gardens.

It is also at the Signoret factory that the vases, decorated in the style of the eighteenth century, with primitive landscapes, were made, ornamenting the corners of the terraces so elegantly, and those flower-pots which are ranged symmetrically before the green-houses and conservatories; the lilac petunias and red geraniums, the aloes and yuccas, with their stiff unbending leaves, acquire greater importance and produce a better effect when seen to spring out of elegant bouquet-

BÉNITIER OF NEVERS FAYENCE.

holders, of wide circumference, decorated with deep blue on a white ground. It is anything but a picturesque style of garden ornamentation, but it is exactly adapted to a landscape garden laid out in the French fashion. The distinguishing mark of the Signoret manufactory at Nevers is this:

The only thing that is wanting at Nevers, for it to regain its former rank and station in the Ceramic art, is the founding of schools where the children of potters who are destined to succeed their fathers, should be taught to be not only expert workmen but also reasoning artists. The division of labour, that law which is daily becoming more socially fatal and more tyrannical, will sooner or later succeed in extinguishing all mental occupations. If we cannot altogether remove the obstacle, we must divert the course of it. Thus, in this instance, there might be practical lectures, a course of instruction, in which the pupils would have placed before them, for examination, specimens of pottery and Ceramic art chosen from among the best collections and productions of all periods and of all nations, so as to educate their minds and accustom them to comprehend, by comparison, the general laws of beauty. It is no use requesting the potters of Nevers to give us Persian or Japanese decoration in preference to the Etruscan or Italian style; they would not understand us; we must bring them by slow degrees to understand what harmony of decoration is, and then urge them to compete for prizes in the making both of the dishes for a palace and of plates for the use of the poor.

Monsieur Chantrier, an artist of Nevers, might no doubt have been the means of putting this scheme into execution, but he died leaving scarcely more than one master-piece behind him—a decorated dish for Monsieur du Broc de Seganges, an artist of the town, who has himself written an excellent history of the Nevers potters' art.

The truest French "faïence," and that which has obtained the most legitimate success, is the Rouen ware. That alone, in imitation of the Oriental products, has succeeded in joining an enamel harmonious and brilliant, to a truly original, refined, varied, supple and bold style of decoration. Yet, notwithstanding, it is exactly this one which con-

temporaneous Ceramists, so unfortunately induced by the caprice of the public to imitate instead of originating, have neglected to reproduce. In fact, I believe that Rouen now no longer possesses one single furnace. This is in itself a curious thing, for, however remote they may be, the traditions of a manufacture are always found in some corner of the country where a special industry flourished for a long space of time.

DISH OF ROUEN WARE, SEVENTEENTH CENTURY.
(At M. Mat. Meusnier's collection.)

It was thus that Monsieur Davillier recently met with one of the last descendants of the Hispano-Moorish potters, at Manisès, in Spain. We transcribe his account of it:—"After traversing the fertile Huerta for the space of an hour, in the midst of a verdant landscape, I observed the dome of the church of Manisès, whose shining tiles, of a sort of copper lustre, were beaming in the sun. A little while after I

was with the maker of 'golden ware,' as they style it at Valentia. This 'maker's' name is Jayme Casseus, and he is a humble amateur, who, when his little inn is devoid of visitors, spends his leisure hours in making faience. The decoration of his pieces is specially the province of his wife; which chiefly consist of cups, plates, and a few fanciful vases, together with a few things of a simply ornamental character. They are sold for a few pence, except those copper-coloured lustre cups which are used to discover the quality of wine, which allows you to see the bottom of the cup according as it happens to be thick or clear." *Sic transit gloria. . . . . .*

The Rouen faience had no less success from the seventeenth till the middle of the eighteenth century, at least in France, than the Hispano-Moorish vases, with metallic lustre, had in Italy the century before. "Louis XIV. himself had thoughts of becoming a potter," says Saint-Simon, at the time when the "Sun King" sent his massive gold and silver plate to the Mint.

One might almost write a complete heraldic history of France in a room in which were united all the dishes, plates, cups, and mugs in the shape of helmets; in short, all the pieces of Rouen pottery which have armorial bearings for their decoration. At those periods, when a jealous, imperious royalty had exhausted and oppressed the nobility of which Richelieu had struck down the most haughty and disaffected heads, it must have been an ornamental and more luxurious kind of ware that replaced for every-day use the vessels of metal. Monsieur André Pottier, of Rouen, himself a descendant of a family of distinguished Ceramists, and curator of the museum of that town, may some day tell us what prices it once fetched. But it is quite evident, from the size of the pieces and the perfect success of the pencil sketches, that the price was considerable, and the influence of aristocratic protection is keenly felt in the contemplation of it.

It is well ascertained that at the middle of the sixteenth century the furnaces of Rouen were alight, and thence came the enamelled pavements of Ecouen, which recount the histories of Quintus Curtius and Mutius Scævola.* Exactly one century after, in 1647, plates and pots were signed there by potters who undoubtedly came from Nevers, one of whom happened to be named Custode. A few years previously, an

* In the possession of the Duc d'Aumale, at Orleans House, Twickenham.

usher of the Queen's chamber, Nicholas Poirel, Lord of Grandval, had obtained a concession for fifty years of the manufacture in that province. Rouen also imitated Holland, and especially Delft, but it was not from Delft, which imitated Oriental porcelain, nor from imitations of Italian majolica, that Rouen borrowed the brilliant style of decoration with central flowers, which, composed merely of blue, black or red, fills the

CIDER PITCHER OF THE SEVENTEENTH CENTURY.
(Rouen ware.)

whole inner circle of a dish with so much charm and harmony. This makes itself felt when a fine original specimen is placed before you, and one can easily understand that some of such dishes as shine out, like stars of different brightness, from the cabinets of Monsieur Loysel, of Bernay, or from the Léveel collection at the Museum of Cluny, which at a public sale command a sum of more than a thousand francs.

The Duke of Hamilton, in 1862, lent the decorative busts of the four seasons, in the fine style of the time of Louis XIV. (which are placed on stands of the most decorative description), to the South Kensington Museum. The flowers, which seem to creep over it, intertwining and interlacing with each other, are in the style of this pretty pitcher or cider-pot, which we bought at Bayeux in 1854, to

CORNUCOPIA PLATE, EIGHTEENTH CENTURY.
(Rouen ware.)

the great surprise of our fellow-travellers, who little imagined the great success in store for these seemingly common pieces.

The so-called cornucopia style of decoration succeeded to the Chinese, which was not very agreeable, and only shortly preceded the total decadence of the art. The plate we here reproduce, the refinement

of which is remarkable and very exceptional, is the "cornucopia" style, that is, that the horn whence proceed the flowers is of a square shape. In reality, this sort of cornucopia was made generally of earthenware, and was fastened to the wall, to serve as a flower-vase or stand. They are still to be met with in England, but then generally cast in or made of tin or iron, and painted. Some of these exist at the Museum of Rouen, together with helmet-shaped ewers, Christmas slippers, inkstands, sugar basins, wig-stands, and last, but not least, the famous earthenware violin, the story of which—in the main founded on truth—afforded Monsieur Champfleury the theme of an amusing tale. This violin, a master-piece of Ceramic art, was made in Holland, possibly at Delft, and was discovered by Monsieur Sauvageot, at Rouen, and under the very eyes of the most indefatigable seekers of Ceramic curiosities. Monsieur Sauvageot left it as an heirloom to his friend and colleague in researches, M. A. Pottier.

Of late years, when ancient pottery nearly succumbed under the weight of documents, another centre of production has solicited the attention of amateurs: it is Moustiers, a little town in the south of France, which devoted itself chiefly to the production of a combination of blue and white, and succeeded in bringing it to a high degree of refinement and perfection. The Moustiers enamel is of the rarest sort; it is of a milky-white, which, from its cohesion and fineness, may well compete with the bluish-white of Rouen. Monsieur Davillier, who, in common parlance, "invented" the Moustiers ware, possesses a splendidly decorated dish, representing one of those bear-hunts which Tempesta endowed with noise and sunshine. It is signed, "G. Viry, chez Clerissy," which Pierre Clerissy, in 1747, was secretary and chancellor to the King in the parliament of Provence. The border round this hunt is composed of masked and winged griffins, ancestors no doubt of that one which is seen creeping up behind fantastic rocks and chasms. The manufactory of Moustiers, as may well be seen in this elegant perforated pot for sifted sugar, exerted itself chiefly in the rendering of certain ærial constructions and figures, with infinite minuteness and precision of touch, thin elongated pillars, supporting busts of long-necked women, with their heads bent, and to whose languid shoulders are fastened draperies, or grotesque and grimacing faces. These are, as it were, the troupe of

MOUSTIERS WARE SUGAR CASTOR.

(M. Jacquemard's Collection.)

actors and the scenery of the ideal representatives of Claude Gillot, the master of Watteau, or of Bérain, who was scene painter and designer for the artists of his time. It quickly relapses into mannerism, so that real collections consist in pieces which have more value than variety. The effect is monotonous: it is like the favourite crockery

DISH DECORATED WITH BLUE.
(Moustiers ware.)

of a spoilt and whimsical child. In our day, Ceramists of great ability, namely, Messieurs Genlis and Rhudart, have succeeded in imitating pieces of the Moustiers ware so exactly as to render them almost undistinguishable from the original.

We do not care more lengthily to review these ancient centres of Ceramic produce. We have mentioned some of the most interesting, at any rate, in France.

The Dutch faience, and especially the Delft, although it has had many wrong-headed friends to over-estimate its good qualities,* has not been lowered in the estimation of impartial judges. It has counted, among the painters of scenes and landscapes, who made those decorated plaques of earthenware which were to be hung against the wall as pictures, men of undoubted ability; but these pieces can only be reckoned as isolated specimens of curiosity and merit.

Latterly, Monsieur Pinart, who is endeavouring to overcome the greatest practical difficulty in the painting of the more finished objects upon raw enamel, and Monsieur Bouquet, who paints in the great heat-colours (*au grand feu*) landscapes which many a professional landscape painter might envy, have equalled, if not surpassed, those master-pieces of the Dutch, which some have not hesitated to attribute to such masters as Teniers, Karel Du Jardin, or Berghem.

Pieces of a peculiarly lively and off-hand painting are commonly the work of Marseilles. Certain bunches of roses and daisies might have been signed by the hand of Baptiste Monnoyer. Honoré Savy, who had obtained the privilege of making porcelain, received in 1777 the visit of the Count of Provence, afterwards Louis XVIII.: "Monsieur was ushered into the great gallery, where he saw an immense quantity of faience of every sort, whose perfect quality he was kind enough to praise. The Prince was so pleased that he placed Monsieur ('le sieur') Savy and his manufactory under his special protection, authorizing him to cause his coat of arms to be placed upon it, and a statue of the Prince himself to be erected in the midst of the gallery, which statue he is about to make."

An apt epigram, this statue in crockery, of the Prince who afterwards lived to translate the works of Horace! The mark of a fleur-de-lys, which is to be found in brown colour under the prettiest pieces of Marseilles ware, is likely to have been made by the Savy manufactory.

Marseilles has also left us figures of birds or vegetables, in relief; a hen and chickens; green cabbages; turkey cocks in angry moods with tails spread out; bundles of asparagus;

* Allusion is here made to Demmin's book on the Delft faience.—Ed.

golden pheasants, or dishes of walnuts. It is, as it were, the dinner and dessert service of a princess transformed into a sleeping beauty by the fairy of faience! These birds, animals, fruits and vegetables have also been baked in the ovens of Germany. There is, more especially, one service which is complete, in the "Château de la Favorite," near Baden.

The search into the documents of archives, or in almanacks of the time, has brought to light as many claims as there were important

SOUP TUREEN AFTER A SILVER PATTERN. BRETAGNE WARE OF THE SEVENTEENTH CENTURY.

centres in the provinces, aiming at the nearest resemblance to plastic argile, and thence has arisen a great complication in the classing of all kinds of soup tureens, wall fountains, of ecuelles, and tiles; but how was one to steer clear of giving offence? Even here, if we mention Rennes, which made the embossed ornaments on pieces of gold and silver plate, we are bound to speak of Sinceny, which imitated Rouen china with some artistic precision and humour. Sceaux-Penthièvre produced figures of quite as refined and minute a character as those of enamelled snuff-boxes; Strasbourg made heavy imitations of

Marseilles ware, and of the pretty and irregularly distributed bunches of flowers of Saxony; but in the latter half of the eighteenth century it rivalled Rouen, Bordeaux, and many others, in fashion.

Let us hasten from these, and seek refuge and hospitality with the Shahs of Persia and the Rajahs of India.

At the retrospective exhibition of the "Union centrale," the pottery of the West—of France or Holland—had been arranged together in the same room; and it is only the Rouen ware that could in any way stand the brilliant vicinity of the basins and ewers of Persia and India. In Rouen ware only can one recognize a distinct expression of artistic merit, together with a form that, although originally borrowed from those of China and Japan, but greatly modified, has lost nothing in adapting itself to the exigencies of French taste. The produce of other manufactories appeared either mean or coarse and vulgar, totally devoid of any originality of style. The East, however, carried all before it.

The origin and date of these triumphant Oriental pieces are obscure. It is only lately that M. Albert Jacquemart, a writer full of tact and erudition, has demonstrated the difference between Indian and Persian earthenware. Must we understand by Persia the tract of country which lies between the Caspian Sea and the Persian Gulf? Is it known whether or not the kingdoms separating it from Hindostan, Afghanistan, Beloochistan, and the Punjab, had any part in the genius of the productions of these two people? Let us be content with saying that these dishes are attributed to India, whose ornaments chiefly consist of bright-coloured birds perched on stalks of flowers, intwined and interlaced. With regard to that porcelain which was, by a misconstruction of terms, called Indian during the eighteenth century, it consists of a numerous family, of which we will speak later on.

Like the Hispano-Moorish pieces, the Persian faience is also ornamented with metallic lustres. This indicates their common origin. Thus, as early as the tenth century, we here find undoubted traces of the influence of the Arabs, who at that time were conquerors and monarchs. In 644, the last king of the Sassanian dynasty had been defeated; but although, from these disasters, that fine kingdom gave up its ancient name to take the title of Iran, it never abjured its traditions of luxury, poetry, and sensualism. Even now, when it is scarcely more

RENNES FAYENCE FOUNTAIN AND BASIN.

than a vast plain of arid ground, depopulated, travellers journeying through Persia are struck with its scented valleys, and the supple intellect of its inhabitants. It is not without a cause that it has been called the Italy of the East; hers has been spoken of as the most musical language of Asia; her exquisite poetry and her decorative arts are worthy of exercising over ours—having due respect for those modern nations which so widely differ from those of the Renaissance—a most decisive influence.

VASE IN IRAN PORCELAIN.

We knew nothing of the existence or progress of Ceramic art during the prosperous days of Cambyses or Cyrus, or during the dismemberment that followed the conquest of Alexander, and scarcely anything respecting the period of Arab dominion. What we are chiefly struck with is, that it is in that country that the richest turquoise mines in the world were discovered, those of Nichapour, which were found to produce the peculiar blue,—partly green and partly grey,—these two

colours combining to produce the most delicate blue-green imaginable. It has always been remarkable that industrial art of a decorative sort has endeavoured to imitate, more or less exactly, some natural produce of great beauty and rareness. We shall have occasion to observe this in China with regard to jade. In the West the *cloisonné* enamel aimed at imitating the mosaics of marble and other hard stones.

The Persians were in the habit of decorating articles of daily use, such as tiles for houses, pipes, gourds for wine, ice-pails, cups, saucers, pots for preserves, meat-dishes, dishes for fruit or vegetables, with whatever they considered most valuable after gold, pearls, silken textures and furs,—that is to say, with flowers and hunting scenes. The lion, buffalo, antelope, or hare-hunts have been the favourite recreation of kings of the oldest and highest dynasties; we see them represented on granite bas-reliefs, single-handed, and piercing wild animals through with a spear or with a knife, or piercing them with their iron arrows.

Later on we have seen those pompous and grave princes chasing a falcon or a hare, supposing the Koran to have sanctioned, even on works of pottery, the representation of the human form. In default of their own likenesses, these ancient fire-worshippers, who had by the sword been converted to the Mohammedan faith, decorated the walls of their palaces, and their rich silver plate, with representations of the panthers and gazelles they had hunted and slain in the green plains which formerly extended from the Caucasus to the Himalayas. Sometimes the harpy, with woman's head and peacock's tail, is discernible upon the neck of those sprinklers with long necks and narrow mouths, from which servants are instructed to sprinkle the garments of guests when they enter a house.

After hunting and good living, flowers are the favourites of the Persians; they have a passion for them. Their poets have celebrated in the most chaste and harmonious accents the love of the nightingale for the rose. Their carpets are like pictures of flower-beds shut in the courtyards of palaces, and surrounded by open-work galleries, which are refreshed with fountains of water, flowing into marble basins where they might retire from the scorching winds of Arabia. On them is to be seen the open tulip—mystical flower—emblem of a heart consumed by passion, the side view of which is rounded like an Ionian column, in pearly texture like the water-lily, and whose

PERSIAN WARE EWER MOUNTED IN METAL.

points are sharp as arrows, which made so deep and stinging an incision in the heart of the phlegmatic Dutchman. There, too, we see gathered and tastefully arranged bouquets that speak in the "language of flowers" mutely, but so eloquently, that each word rivets the entire senses, hieroglyphics of scent and colour which die as soon as they are understood.

After the tulip—originally a sacred flower—there are those flowers of strong and intoxicating scent which we almost always meet with in decoration; the red rose, for instance, and the hyacinth, the honeysuckle, and the Indian and clove pink. They are either represented as they are in Nature, or else in totally opposite colours and converted into ornamenting agencies; for being very delicate in their poetry and arts, and even in their very existence, the Persians refine everything in the highest degree. They endow each flower and each perfume with a hidden meaning.

Although they are Mussulmans, they drink with rapture the strong ruby wine which they gather from the crops grown on the slopes of their mountains. And how much lighter and more cheerful are their vessels than those of colder countries which only grow hops! Besides their richly-perfumed coffee, there are those powerful and limpid wines, which flow so elegantly from the golden spouts of their ewers and jugs. The art of pouring out gracefully is, in a woman, as charming as it is rare. It has been celebrated by one of their poets, who sings: "L'échanson with her pitcher has sent me twice mad! It seems as if this rose-scented young beauty sought to intoxicate me with the wine she pours for me!"

The Persians are not only decorators with perfect taste, but they are also potters of consummate merit. In the rich collection of M. Scheffer, interpreter to the Emperor, our reader might, with the different pieces in hand, observe the difference, somewhat remote, between Persian pottery and Persian porcelain. Sometimes we find that their pottery, which is of a silicious, very fine, and very white paste, has, from exposure to a high temperature, become vitrified, in some places even transparent. Their porcelain however, generally modelled in the shape of bowls, or preserve dishes, has not always a white ground; sometimes the ground is of a fawn colour, brown, or bright blue. On certain pieces the cypress, and the symbolical bull, has been recognized, which would lead one to imagine them to date

from the time when Persia still exclusively bowed to the religion of Zoroaster.

It is not known at what period Persian products made their way into Europe, but a curious fact has struck us—and it is one which we have often seen corroborated, when we have looked over manuscripts of a few years before the Crusades—either in window-sills, in galleries, oratories, or gardens, we find vases decorated with full-blown flowers, painted in blue on a white ground; these flowers generally represent tulips or pinks. May we not, then, justly infer, that not only the flowers, but the vases in which they were contained, were brought over the sea, into France, by the Crusaders, who had been struck with their beauty?

Recently the Museum of Cluny has received an important addition to its riches, in a considerable number of these cups and dishes, collected in the Island of Rhodes, where they were made in the fifteenth and sixteenth centuries. Not only do they, in several instances, possess figures of men and of women in Levantine costumes, which no doubt were the work of Christians, but some of them have whole lines expressing complaints and regrets of Persian potters, then in captivity, in lieu of the mark of the workman; in these they lament their captivity, and on the margins and the reverse side of their dishes, express their exile tears.

The starting point of this Iran style of decoration is always a garden; the plants spring from the bottom, and thence ascend like lilies or ears of wheat. Sometimes they are thrown up by touches of gold, which, not being painted under the surface, are for the most part partly obliterated. The most frequent colours on them are manganese lilac, bright yellow, green, turquoise blue, and a magnificent bright red colour, resembling pounded brick-dust, or unpolished red jasper. European potters have not yet completely succeeded in imitating them. The furnace which has most nearly succeeded in this, is that of Theodore Deck (TD) but even that red has not all the desirable brilliancy, and its blue-green, composed of oxide of copper, cannot resist great heat, and is very unstable. Notwithstanding this, the progress lately made by the Brothers Deck has been considerable.

The Brothers Deck were first urged to imitate Oriental—and especially Persian—produce, by M. Adalbert de Beaumont, a traveller of

PERSIAN WARE VESSELS.

(Museum of the Hôtel Cluny.)

great sagacity, and of an independent mind. Pencil and pen in hand, he visited Italy, Egypt, and Asia Minor, bringing back with him innumerable designs and copies either of detail or of general effect, and precious scraps of that enthusiasm which kindles all it approaches. It was he who directed all the first attempts of the Brothers Deck, and since then he has taken a practical chemist, M. Collinot, into partnership. He it was who, in the Avenue des Parcs aux Princes, decorated with white plates—whereon are written verses of the Koran, in blue relieved characters — a house that is one of the greatest curiosities of the new Bois de Boulogne. It is there also that he engraves, with aquafortis, a series of designs he has traced, with great fidelity and precision, in the churches and palaces of Florence and Venice, in the mosques and kiosks of Cairo and Constantinople, off the Bedouin's musket, and the embossed helmet of the Circassian. From that furnace which we see smoking in an angle of the yard, have issued not only vases, flower-pots of great magnificence, and paving-tiles worthy of finding a place in the bath-room of one of the princesses in the Arabian Nights, but also the invention of a Ceramic manufacture of a highly aristocratic character, which passed almost unobserved through the critical hands of connoisseurs in Ceramic art, although it is worthy of the greatest attention and interest. Any given design is stamped and traced out upon an earthenware plate, that, for instance, of a branch full of leaves, the two profiles of the stem and of the leaf are traced with an oxide which has the property of remaining fixed where it is laid, as well as that of rejecting the proximity of those colouring enamels intended to form the tone of which the leaf, ground, or bird to be produced, is composed. In the baking this enamel, always distanced by this line, which remains as thin as a thread, swells up into a sort of little eminence, like the earth piled up on each side of a newly-made ditch. Thus is obtained, besides the desired tone, a relief catching every light, so that the decoration is shown off to the greatest advantage. All is very soft and very harmonious, but sometimes a trifle dull, owing to the fact that M. de Beaumont has adopted, rather too literally, the Oriental preference for intermediate colours, and also, perhaps, because the original materials of Europe may be of a rather coarser quality than those of Iran. This style of decoration he calls "cloisonné."

It is a strange coincidence that our recently developed public liking

for Oriental pottery should be simultaneous with the passion for rare essences and ornamental flowers. We know the connection which existed between the solemn wig of Louis XIV. and the borders of Versailles, cut and shaped like the pawns of a chess-board; then, the flower-beds were only to contain lilies and sunflowers. The underwood was cropped and shaven, in order to represent the rays of a star, which met the centre of the wood; walks were cut in lines, both sides alike.

"... deux à deux,
Comme s'en vont les vers classiques et les bœufs."

It was towards the end of the eighteenth century that the pompously monotonous style of the French parks was succeeded by, perhaps rather too many, temples of the Sibyl and Chinese pagodas, ornamented with chimeric figures, and by the park disposed in the English fashion. In this, at least, the trees were not lopped and disfigured, the river was allowed the wildness of its banks, and the sheep were suffered to feed off the green grass of its lawns and sweeps. Within the last few years, especially within the last thirty years, landscape gardeners have better and better understood the fact that the copper beech, the silver-leaved willow, the sombre evergreen, and the light and tender hue of the birch, are like the different hues of an artist's palette, and may be used in a similar way, thus converting a uniform park, dull to the eye and senses, into a picture full of harmony, vigour, and charming contrast. As if endowed with a new life, modern parks have educated the public taste in its appreciation of the beauty of nature in its wildest form; they have given rise to the modern taste for yachting and Alpine travelling; landscape painters have reproduced every detail, even the smallest, forcing upon us, for the decoration of our rooms and walls, the representation of wild river-banks, little views of deserted forests, or sketches of sunny pasture-lands. The classic muse of the Champs Elysée is at a loss where to place her conventional tea-border, her angry waves, her stiffly overhanging rocks, and her trees like leaden toy trees; the École des Beaux-Arts herself has closed the door upon her.

In fact, flowers have become our constant companions at all times and in all seasons. Our now more frequent intercourse with Japan, whose temperature is nearly the same as that of the French climate, the excursions of our naturalists into the forests of America, have

enriched European horticulture with the whole family of orchids, as variegated in colour, as quaint in form and almost in expression, as the dream of a jolly mandarin, together with a hundred other plants for flower-beds of brilliant hue and abundant foliage. There is scarcely a large house now without its conservatory, and scarcely a room without its ornamental stand of non-deciduous plants. All this is favourable both to the education of the eye in its appreciation of beauty, and to the gracious appearance of the interior of our houses. The close examination of an iris, with its lilac petals, or of a lilium bending itself back like the claw of a Japanese crab, will teach us more of the depth of a colour and the charm of a jagged outline than a whole course of lectures from the professor in a school, although a peony does not wear a square cap, or a chrysanthemum wear spectacles. The charming combinations of flowers which ornament the flower-beds of our squares and gardens, or scent the markets, never wrote notes on the margin of a budget; and yet it is to the softening influence of their teaching that we owe the increased liking for colour in the public mind. At the return of autumn, Eugène Delacroix used to place in his lobby great pots of chrysanthemums, which he studied as minutely before entering his studio as any other artist might look over the leaves of a portfolio containing engravings from the antique, and with the same care and untiring zeal. And how immortal are the flowers of his large pictures and other works!

It is to the forms and detail of the flowers of the West that our modern potters should turn their attention, and strive, if not to copy them exactly, at least to imitate them with intelligent comprehension of their merit. MM. Deck, Collinot, Laurin, Genlis et Rhudart Barbizet, Gouvrion, and others, have demonstrated to what degree of perfection the imitation of foreign models may be carried. They must now endeavour to invent and produce original ones, and some of those materials with which their soil furnishes them are unrivalled. I will only instance those brown and green enamels, of incomparable depth and brilliancy, covering the more vulgar pottery of the South. It would suffice to cover purer, newer, and more elegant forms with it, to have pieces as decorative and ornamental as can be desired. M. Jean's blue enamel, obtained by a judicious superposition of melting substance, might, by being made somewhat less smooth and less dark in colour, furnish groundwork of the most powerful relief. M.

Brianchon's lustres, which imitate mother-of-pearl, and the scales of the bleak in their prismatic hues of blue, green, grey and pink, only wait for a happier disposition of shape. The matter is there.

Clever intelligent heads, and supple and experienced hands are to be met with everywhere. What is wanting is a soil for them to inhabit, and a public that will support them and reward them for their efforts. What has become of that factory of Rubelles, which made dinner-services with what was called "shadowed" enamels? For some years the Baron du Tremblé patronized it. The invention of the process, I believe, is due to M. de Bourgoing, who had requested certain eminent artists to produce some choice models with it. The practice is the same as we have described above for squares of pavement in the middle ages; moulds in relief of sea-pieces, and landscapes, or scenes and wreaths of flowers and fruit, or coats of arms—these last were more successful—were applied on the moist paste; the turquoise, green, brown, violet, or other coloured glaze was poured upon this surface, and according to the depth of the glaze the tones were more or less transparent. The method is inexpensive, and has produced some very charming dessert-services: since then, the factory of Rubelles has extinguished its furnaces.

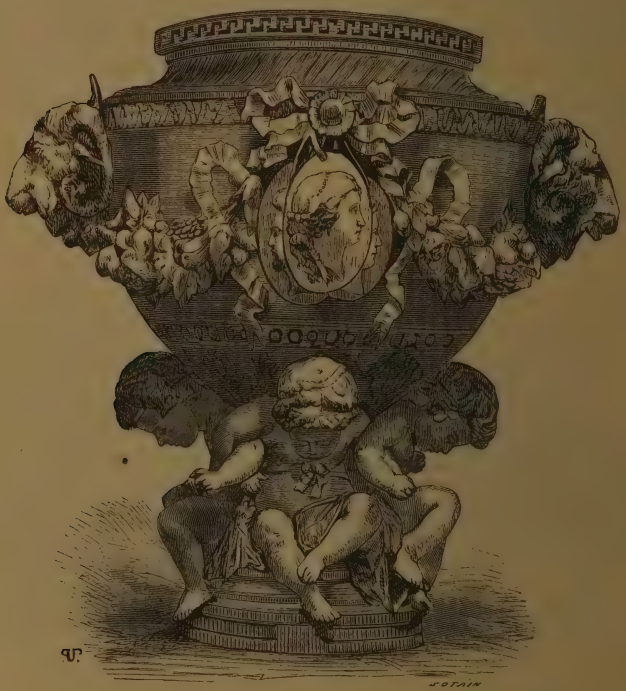
The works and factories of Minton, in England, at present enjoy the greatest European celebrity. But the very perfection of the articles produced by them is destructive to the gratification they afford; and one is surprised to find oneself less ready to accord entire admiration to these highly glazed baskets, or to those candelabra which are as highly polished as the panels of a carriage, than to the rougher plates and dishes of our poor peasants. We prefer porcelain. The English, who feel so acutely the exact turning-point at which their qualities become defects, have called over to England, at different times, artists of distinction; for instance, M. Carrier-Belleuse, who has modelled decorative vases and statuettes in Parian, together with beer-jugs of different kinds; or M. Lessore, who has hit upon the chief secret of painting on earthenware, that of dispersing the colours in different thicknesses, instead of laying it equally all over the surface. Unfortunately, as soon as French artists have spent some few years across the water, they become entirely and purely English; or again, having returned to France, the pupils they have educated forget their original teaching.

"What has this industrial artist produced?" writes M. Léon de Laborde, after the Exhibition of 1851, in speaking of Minton. "In the first place, excellent crockery for common use, at a very moderate cost; in these the shapes were the main object, and he has succeeded in suiting them to their different purposes. He began by studying the Ceramic art of the Greeks and Etruscans, that of the English and the French middle ages, of the Italians, of the fifteenth and sixteenth centuries, of Bernard Palissy, and of the manufactories of Rouen and Nevers, and by borrowing from each one of them ideas, forms, and models, he has succeeded in composing a combination at once charming, applicable to all uses, and within the reach of the poor as well as the rich." Thus it is with this pint-pot of black clay, or that of yellow or grey stoneware, decorated with a wreath of wild hops, or vine-leaves, or a sprig of ivy, or a reed, to break the uniformity of the outline,—a masterpiece of sober good taste.

Since the London Exhibition of 1855, and since that of 1862, where was to be seen the large vase modelled by M. Carrier-Belleuse, whose qualities of elegance and uniqueness were so little understood by the English press, our Ceramic artists have surpassed the productions of Minton in point of independence and painted decoration, but none have come up to them in outline, or in suitableness to their several uses. These two endeavours, however, cannot go independently of one another. It is all very well to paint on raw enamel, in order to complicate the difficulty of the matter, scenes of the eighteenth century, or landscapes, but these will only satisfy the taste of a few. Earthenware demands a wider sphere; its true vocation is to be decorative. There are thousands of public places, colleges, halls, railway stations, the pits of theatres, staircases in public buildings, where it might form as grand a style of decoration as it would be wholesome in point of taste; one stroke of the sponge and brush would suffice to render to it all its lustre; and be it used either in small square tiles, to be subsequently put together, or in large plaques, or even in some cases, as M. Rousseau has endeavoured to do, in objects cut out, and then conjointly placed like a child's game of patience, or patchwork, it will always be found to be in accordance with all description of stone or marble, and far less costly and more durable than stucco. Among other examples, we will cite that of a gamekeeper's cottage in a wood, externally decorated with large plaques, on which, after

the example given us by the Japanese, M. Bracquemond had designed numbers of water-wagtails settling lightly on the reeds of a marsh, amongst herons that stand motionless and pre-occupied; but especially let us avoid human figures, for then we might fall into mannerism and affectation, or find ourselves merely the authors of caricatures.

The process of painting on lava, practised by Monsieur Jollivet with great facility, might, by very exact copies, save us from the



VASE IN ENAMELLED EARTHENWARE.
(Modelled by M. Carrier-Belleuse for the works of Minton & Co., Stoke-on-Trent.)

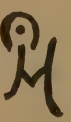
destruction now hanging over panels, pictures, and frescoes—these masterpieces of great painting in its highest form. For open-air use, like earthenware, it furnishes surfaces which are uninjured by exposure, either to the sun, water, frost, or the attacks of small insects.

In its adaptability to household use, earthenware—itself very superior to pipe-clay, which is dull and untrue of tone, and emits a very unpleasant smell when under the process of cleaning—is not to be

compared to the more wholesome and agreeable white porcelain. Moreover, porcelain so readily adopts every kind of decoration, that if a process were invented to endow it with some appearance of originality, it would quickly regain its original position and the ground it has lost. Impressions have been attempted, but without any good results. The application of chromo-lithographed paper has been tried, but the paper was burnt, or at least it became shrivelled in the baking, for the colours adhered to it; and even then, the regularity of the design became monotonous. A trial, however, has lately been made, which seems to solve that problem of modern times which stands in the way of all industrial art—namely, to produce much, quickly, cheaply and well. The designing of a certain number of types or models has been entrusted to an intelligent artist; either flowers, leaves, or birds. When these are drawn, they are firmly engraved with aquafortis, care being taken to make the outlines and veinings sharp and distinct; then these marks and outlines will become printed upon the plate, and the intervals filled in with a brush by ordinary workmen. By this means artistic forms may be obtained, as well as bold masses of colour.

Between "Fayence," of which we have treated lengthily, because it occupies one of the most important places in the classification of decorative arts, and the stone-ware which Zeigler latterly attempted to bring into vogue, we must not omit to place pipe-clay (*terre de pipe*).

The most noticeable groups were modelled in Alsace and Lorraine, the provinces producing the greatest variety of plastic clay. As early as 1721, Charles Hannong, whose mark we here reproduce, attempted to establish a factory of hard porcelain at Strasbourg. He was a pipe-maker. He was the founder of a line of Ceramists at Haguenau. The factory of Niderviller, which was founded by Monsieur de Beyerlé, Governor of the Mint at Strasbourg, stamped its initials on every group it turned out, however small, in imitation of the porcelain of Saxony. Later on it was purchased by General de Custine, and we see the date 1774 preceded by two C's interlaced. This factory employed the sculptors Lemire and Cyfflé; to the latter the town of Nancy owes the large allegorical figures of the fountains on the Place Stanislas; he, too, it was, who at



Lunéville, in 1768, started a manufactory which entirely superseded the royal factory already existing in that town. The great pieces of biscuit ware, by Cyfflé, are composed with much taste, executed with neatness, and modelled with a paste of extreme whiteness, firmness, and smoothness. He has not bequeathed the secret. Pounded bones are among other ingredients of the composition. On the pedestals they are stamped "Terre de Lorraine." Cyfflé's establishment was destroyed in the wars of the Revolution. He was born at Bruges in 1724, and he died, in great misery and neglect, in Belgium, in 1806. His smaller groups for the most part represent little scenes of love-making or lovers' quarrels, in which bold huntsmen and innocent shepherdesses play the chief parts. Their colouring is of light pink and light blue, of a tender and delicate hue, artistically distributed. The Museum of Cluny possesses a pretty specimen, of a cobbler, who is sitting at work in his shop, while he talks to a blackbird, which hops gaily in his cage above him.

The potteries of that part of the country still possess the moulds of some of these figures and groups, easy to use, but difficult to repair and glaze so as to deceive the expert amateur. As they are handed over to the public without any special mark, it may well be imagined how many a dealer has presented and sold them for originals. The manufactory still make vases, candelabra, flower-stands, and pots, in the Louis XVI. style, decorated with wreaths of flowers, or medallions suspended by bows of ribbon. Let this be a warning to our readers to procure them for a moderate price at the place where they are made, rather than in an old curiosity shop, where for a single piece one is asked the price that would purchase a whole set.*

With regard to the clay used for modelling tobacco pipes, more porous, but less highly glazed, than that of which the groups just mentioned are composed, Macpherson, in his "Annals of Commerce," relates a curious anecdote: "A factory, established in Flanders, gave great offence to the Dutch, who could only hope to succeed in ruining it by a great importation on their own account; but the duty set upon such articles was so high, that they had to renounce the expedient and try other means. To this end they chartered and filled a large

* In the "Chronique des Arts et de la Curiosité," was published, in 1865, a list of the moulds which still exist at Saint-Clément: the Bélisaire, the Shoemaker, the Paris Street Criers, the Pleasant Lesson, the Leda, Venus and Adonis, &c., &c.

GOURD FOR THE DECORATION OF A SIDEBOARD—OF GERMAN STONE WARE.

(Sauvageot Collection.)

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ship with pipes, and sent it to hug the coast of Ostend. According to the laws of the country the cargo was seized and sold, but at so low a cost, that the rival establishment was thrown out of work for the space of two years."

In Germany and the northern provinces of France, Ceramic stone-ware dates from a high antiquity. They seem to be peculiar to countries where beer is consumed, in which case the drinker does not care to observe the transparency of the liquid; but there is a certain charm in perceiving the rising froth, lightly tinged with topaz colour over the edges, which leaves long traces on the grey sides of a Nuremberg canette. The English and Flemish beer-pots date from the sixteenth century. They are still rude and coarse in shape and decoration, and cannot approach the later productions of France and Holland. This is a branch in the dominions of curiosity that has never yet been perused or studied by the connoisseur, but which is very deserving of close observation. There are in Belgium and Germany and at Baden great amateurs of decorated stone-ware, but in France we can refer to no important series, except those of the museums Sauvageot and Cluny. Nearly all these pieces bear the arms of old German families, and the dates and monograms of the potters.

The most celebrated collection of stone-ware in yellow, white, grey, blue, lilac, and brown, which has yet been made was that of Monsieur Huyvetter, of Ghent: at his sale, in 1846, certain of these gourds or jugs exceeded the sum of 2,500 francs. They were evidently intended for the sideboards of mansions and palaces, and generally bore coats of arms, mottoes, or sacred subjects. Sometimes the rich gentry ordered them on the occasion of a wedding or a birth. This method of converting furniture and household utensils into family records, on which devolve the duty of preserving and making mention of the greater and more important incidents of a lifetime, is touching, and we regret that it has fallen so entirely into disuse.

Like all objects of antiquity, the German and Flemish stone-ware have been the objects of imitation, all the more formidable because they are compositions which do not well adapt themselves to varied colours, so that a well-made mould can turn out the most deceiving copies. The pseudo-antique stone-ware of this period chiefly comes from Mayence.

France, and especially Beauvais and Savignies, have produced some admirable kinds of stone-ware, for the most part covered with a rich leaden glaze of green, or chestnut-brown. Some dishes, more especially, have been made there which represent scenes of the passion of our Lord, upon a groundwork of fleur-de-lys. In 1515,

VASES AND JUGS IN STONEWARE.
(From Ziegler's factory at Voisin-Lieu.)

some of these were presented to Francis I., on his accession to the throne, and the custom of offering them to crowned heads continued to be in fashion until the seventeenth century, whenever any chanced to pass through Beauvais. It is a strong and noble-looking ware.

The magnificent green glaze with which they cover the oil jars in Provence, might be employed advantageously at the present day.

England exports into France a peculiar sort of water-jug, of a very simple form, covered with a varnish of a tint between that of putty and of burnt bread. They form charming objects, full of colour, for the decoration of country tables, when placed among baskets of flowers or fruit; water is kept cool longer in them than in glass bottles.

Ziegler, in 1839, founded a manufactory of stone-ware at Voisinlieu, a place not far from Beauvais. He was a talented painter, and one who had studied the subject theoretically and profoundly. He published a work of great interest, in which too much space is afforded to classifications, but it contains, nevertheless, very original views on Ceramic art as a whole. His special manufacture was little appreciated by the public, and we believe that it ceased altogether in 1856. He, however, produced some very interesting models in a really modern style; which are now very much sought after. Their colour is of a warm yellow tint, that shines out brilliantly when the vase is filled with foliage or flowers. For the cabinets of a gallery, or the tables of a mansion, we could not select from among modern productions anything more ornamental, and truly decorative, than those cornucopiæ wreathed with ivy and other creeping plants.

They are French, and of our time, and their boldness of outline will long save them from that oblivion sooner or later the fate of all *pastiches*.

It is with this feeling of sympathy for an attempt which deserved a better and more brilliant success, that we will bring our rapid sketch of Ceramic art to a close. Ziegler, like many other artists, had but one fault, but it was an irremediable one—that of not belonging to the time in which he lived.

PORCELAIN.

Is there a god of porcelain in China?—Date of the discovery of porcelain in China—Component elements—In the hands of Chinese Ceramists the form of every material substance may be imitated in porcelain—Mythology, love of nature, gardens, poetry—The Chinese are the most skilful imitators in the world—Classification in groups (families)—Difficulty of distinguishing the products of China from those of Japan.

The Japanese—They imitate and surpass the Chinese—Sham Japanese and Chinese porcelain fabricated in Paris—Indian porcelain of the eighteenth century, and of modern times.

Introduction of Oriental porcelain into Europe—The Medici succeed in imitating it—Attempt of the alchemist Böttger in Saxony—Accident reveals to him a bed of kaolin—The manufactories of Meissen and of Dresden—Attempts of Claude Révérend and of Louis Poterat in France—The manufacture of St. Cloud, and of Chantilly—Distinctive sign-marks of the most interesting manufactories of Germany and France—Sèvres established—Discovery of a bed of kaolin at St. Yrieix—Influence of Sèvres in Europe—The Fontenoy vases—The ink-stand of Marie Antoinette—Enormous prices—Temporary decadence—Forgeries—How to create a Renaissance — The Céladon plaques of M. Solon — Printed decoration — Conclusion.

PORCELAIN.

Supposing it were legitimate to pay divine honours to the man who invented porcelain, China would enjoy that privilege. A Jesuit missionary (le Père d'Entrecolles) has left us curious notes upon China at the period of the commencement of the last century. He relates that one of the Emperors issued an order for various porcelains to be made of a certain description. It was vainly represented to him that the thing was impossible; in vain the officers of the court charged to superintend the works exerted both the zeal and the imagination of the artists employed by the agency of *coups de rotin*. At last one of these unfortunate artists, seized with despair, plunged into the furnace, and was immediately consumed. Miraculously enough, it resulted therefrom that the baking proved successful, and the piece of porcelain came out of the furnace such as the oblique-eyed Nero had dreamed it. They could hardly do less than make a hero, a demi-god of this martyr. Alas, the savans of our time, who have no predilections for legends, have discerned in the laughing, lusty, poussah handed down to us as the porcelain god, Pou-Taï, the God of "Perfect Satisfaction."

Our modern sinologues have, moreover, brought far nearer to our time the date of the invention of porcelain, which one fancied to be lost in a fabulous antiquity. According to M. Stanislas Julien, the date is hardly a century anterior to the Christian era. It must be understood that this date does not particularly apply to other than the kaolin paste.

The Ceramic productions generally, in baked earth or in sandstone, are excepted. The *boccaro*, for instance, which is a Ceramic ware of an extremely fine and light paste, brown, red, or chocolate colour, frequently bears a very antique stamp. But the pieces of porcelain of which, by the aid of historic personages, or of emblems in the exterior decorations, the period has been ingeniously identified, are certainly not to be traced back further than our middle ages.

Let us proceed to show what it is that porcelain is composed of, following the investigations of MM. Ebelmen and Salvetat, who have analysed the raw material of it, forwarded to them direct from China.

In Europe, as in the Flowery Kingdom, the gross kaolins are first subject to a thorough washing, to eliminate the argillaceous matter, which is subsequently mixed with quartzose and felspath sands, reduced to a fine powder by repeated crushing and washing. The Chinese kaolins, like those of Europe, evidently result from the disintegration and decomposition of rock-granite; the body of the paste is formed of it. The *pe-tun-tzé*, the vitreous portion surrounding the white nucleus, which should be streaked and, as it were, spongy, is of compact felspar, or petrosilex. The Chinese paste and glaze are infinitely more fusible than those of our porcelains, and consequently bake at a lower temperature. Everyone knows that it is by its translucency that porcelain is distinguished from enamelled faience, by the perfect homogeneity of the external glaze and the internal structure, and of a hardness surpassing that of flint-stone. It will bear, for household purposes, the action of boiling water or fire without cracking. After being washed in clean, warm water, it retains no greasy particles. It will resist the corrosive properties of the strongest chemical substances, with the single exception of hydrofluoric acid.

In all probability it was originally designed for an imitation of jade, the species of vitreous stone, small specimens of which may be gathered in China in the beds of rivers. Jade will chip steel, and if—as we are led to suspect, by the multitude of pieces of this stone which have found their way to Europe—the workmen have not arrived at some particular method of softening its compact substance, the formation of a vase, or group, can hardly have failed to demand the unremitting labour of a man's life. Confucius regarded it as the emblem of all virtues. Nothing is more natural than that the potters, who, in this

ancient and meditative land, had attained to a marvellous skilfulness, should have been led to produce the fac-simile of a gem of such great price. Kaolin came to their aid. In French and in Dutch commercial phrase of the present day, the stamp of the letter F stands for a Chinese sign that resembles the European form of the letter. It signifies in Chinese, *yu* — jade — and may be found stamped under tolerably modern pieces, but which are of a superior quality. In China, they cite among their most remarkable curiosities certain pieces produced for one of the Emperors in the year 600, by a celebrated potter named Tha-yu, and called "vases of imitation jade." The story of the white swallow, pervading all Chinese romances, is mixed up with the jade-stone. The Emperor Han-vou-ti received visits from a fairy in his palace of Tchaoting. One day she forgot to take away a pin of jade that she chanced to have withdrawn from her coiffure. The emperor presented it to his chief favourite, Fey-yen. Later, during the reign of his successor, this magical jewel was discovered by the women of the palace, who, frightened at what they deemed its supernatural splendour, resolved, after a night spent in anxious consultation, to destroy it. But when they opened the box, where they had enclosed it on the previous day, out flew a white swallow, that disappeared like a flash in the deep blue sky.

The Chinese Ceramists succeeded beyond all possible expectation. Of porcelain they made a really magical substance, that received every form, every gradation of colour, submitted to every caprice; and we have proof that the decorative taste and imitative skill of the artists of the Celestial Empire knows no limit. You see, for example, the dog "Fo," bearded, moustached, curly as a spaniel, daubed red and green, opening his jaws, at the threshold of temples and gardens, thrusting out his tongue, and showing his teeth; or, it is a carp and carplings, intertwisted, with distended gills, in the thick of a clump of reeds; or a garden rat is biting into a peach; a toad, with his bulged back, is crawling up the involuted roots of a bamboo; and here, a nélumbo flower (water-lily) spreads out in full bloom, forming a cup, of which the tea-pot is so constructed, that while not only have its moveable rings been carved out of the mass, but the parts are concentrical and revolve upon themselves, leaving us to wonder how the adherence could possibly have been prevented in the baking. This cup has been laid over again with a fresh coat of lacquer, and this bowl is

as delicately fine and pearly as the eggshell of a turtle-dove. And here, the origin of the vast superiority of the Chinese potters over ours is, that they start always with a more or less free, more or less capricious imitation of some natural production. The object, however peculiar its outline may be, will invariably suggest to the mind a close or remote affinity with a real object. The flowers and the fruits, the grubs and the monsters, the clouds and the waves, the lightnings, the rain, the clipped tree-trunks, the empty shells—nothing has seemed to them undeserving of study; and from this incessant simple observation of the caprices and the functions of life and nature, as well as of living creatures and phenomena, they have been able to refresh their imaginations with countless delicate subtleties.

There are Chinese figures as pure as the purest of those bequeathed to us by the Greeks, notably such as are of the extreme antique period. If, occasionally, they distress us, the fault lies in our classical education, which has armed us against every manifestation of life, colour, and movement: at any rate, we are bound to render them this justice, that, even in their commonest productions, they excel by far the imitation of Greek and Latin types which the Western nations repeat so laboriously. The interminable variations upon the Medici vase afflicting us in France since the triumph of Italian Renaissance, the stolid persistency of our artists in introducing the human figure, either as a support or as a relief in the ornamentation, are afflictions that have ceased to strike attention, because our eyes are absolutely wearied by what surrounds us. Is it not, let us ask, infinitely less interesting and less reasonable than the direct imitation, never mind how independent or fantastical, of the wonders of nature?

We are not desirous of pushing beyond just limits our admiration of a people separated from us by so many points of origin, antiquity, philosophy, and climate. The Chinese have a tendency towards the monstrous and the distorted, which the colder, more critical European finds distasteful. What pleases them best is the broken outline; they are delighted by the curved line; their doors and their windows are round; the angle of the ten roofs capping the famous Tower of Porcelain, which the rebels destroyed some years since, is curved like the nail of the little finger of a first-class lettered mandarin. One would absolutely expect their architects to cavil in Paris at the cold and heavy outlines of the Madeleine.

To the Chinese, far more justly than to the Japanese, MM. de Goncourt should have addressed this highly-coloured paragraph of their last book: "Out there you have the monster everywhere. He is the favourite ornament, almost the fashionable furniture of the season. He is the flower-stand, the perfume-burner. The potter, the worker in bronze, the designer, the embroiderer, bring him face to face with you at every turn. He grimaces, lifts his wrathful nails even on the fashionable dress of the day. For this pale race of women, with painted eyelids, the monster is the habitual, familiar, beloved, if not loving, image, just as the statuette on the chimney-piece is for us." This monster, however, is nearly always a sacred animal; the marvellous horse which issued from the river before the eyes of the philosophic law-giver, Fou-hi, bearing on his back the eight mystical characters; the Fong-hoang, the immortal bird that was the royal coat of arms of the ancient dynasties, and for which, as imperial symbol, the dragon with five claws has more recently been substituted; the Ki-lin, a quadruped whose body is covered with scales, with a branching head, so gentle that he swerves in his fleetest course to avoid crushing a worm; the dragon, spirit of air and of the mountains, upon whom the Emperor Hoang-ti, together with seventy faithful followers, was raised to heaven, while numbers of the remaining courtiers endeavoured to hold on by the beard-tufts of the sacred reptile, but the hairs came out, and they fell heavily to the earth. And who shall say that these beasts, which our exhausted earth was incapable of nourishing any longer, did never paw the slime, press the ground, cleave the floods, fly through the lightnings of the ancient world? Who is there shall declare that our ancestors spoke falsely, and that the strongly excited imaginations of the primitive races of the earth have not transmitted to us traditions comprising general features of extinct monsters? Science, which resuscitates on one hand what it slays on the other, has managed in these later years to reconstruct more than one fabulous animal. Up till recently, for example, the épiornis (the great Roc) was accounted to have flown in no other sky than that of the "Arabian Nights." If the shell of one of its eggs, big as a bomb, and a thigh-bone of the bird, solid as an oar, had not been discovered by lucky accident, we should still have grave and learned men doubting the truth of the story of that miraculous bird.

The more earnestly we contemplate the genius of the Chinese in their ceramics and bronzes, the more we have been enabled by the narratives of travellers to become acquainted with their domestic life, and have read the translations of their dramatic works, their romances and poetry, the deeper is the interest we feel in this aged, melancholy people, who seem, after an interminable succession of centuries, to have exhausted every combination in mind, arts, and crafts. This race was altogether the best endowed, the strongest, the most patient, the most inquisitive of all that forsook the flats of India to colonize Asia. Doubtless, its misfortune was to have aged in utter isolation, without suffering those perpetual invasions of the barbarians which made Europe rejuvenescent. The spirit of Greece, of Rome, and of the Northern races, battling together and successively displaced one by the other, have, in the end, formed that of the European,—a character complex and sonorous as the piece of metal gathered after the burning of the Byzantine palaces, and which was composed of a hundred metallic varieties. But the Chinese, on the contrary, have always absorbed their conquerors.

How they love Nature! It is true that they subject her to the pleasure of their fantastic will, by decorating their apartments with oaks a foot high and peaches no bigger than nuts; yet with what ardour they pour forth in spring-time to enjoy the odours of flowering apricots and nélumbos! Such of their romances as have been translated into French,* "The Two Cousins," "The Two Fairy Snakes," "The Accomplished Young Ladies," are full of those happy gatherings which friends appoint to make at the return of bright weather, when the interchange of poetical couplets and quatrains enlivens the cup of *saki*.

A root of a species of peony will fetch at Peking more than £8. Their gardens were the model for English gardeners in the eighteenth century; and from this period we may date the decline of those parterres naked to the sun, and of the surrounding box-wood cut in the form of a moustache-brush. Captain Negroni, a French officer accompanying the expedition to China, who has brought back numerous articles of value from that country, thus describes the gardens of the Summer Palace, reduced to ashes by the Western barbarians:—

"The gardens were magical: you beheld gentle slopes covered with

* Translated by M. Stanislas Julien.

flowering trees, with valleys between them, through which wound artificial rivers, and here and there were basins of limpid water. You passed along devious gravel walks and high circling galleries, by clumps of thicket, and perpetually curving pathways, interrupted by groves of flowers, coming now and then on kiosks of variegated tiles and rock-bordered rivers, crossed by bridges beautiful with carved balustrades, and the vast dragons, the symbols of imperial power; and in the centre of all was a lake of an immense extent, where a rocky island uprose, with a charming pavilion on it."

From nature, and not from dubious experimental combinations of the laboratories, the Chinese have drawn their unrivalled colours: they have violet of the melongena (the mad-apple), the scarlet-runner's red, the pure, deep, milky-white of the petals of the camellia, the emerald's green, and gold-veined lapis-lazuli. One of their Emperors desired them to render the effect of that evanescent "blue of heaven after showers," when the azure of the sky is still partly veiled by lingering vapours, and they have succeeded in expressing it so far as to discourage our great landscape painter, Corot himself. You see a porcelain vase that you take for bronze; another you will conceive to be a piece of goldsmith's work. Attentive to the smallest details of their business, these workmen have been inspired to benefit by the occurrence of any slight accident and gain extraordinary effects from it. Observe the cracks running over some of these vases, like the meshes of a fisherman's net, in parts marked delicately as the back of a trout, and again regularly as the channel lines of a honey-cake. This must necessarily spring from a want of homogeneity in the body and the glaze covering the so-called Céladon vases: the greater contraction of the interior caused the surface-coating to split with a thousand little lines. The veined or mottled colours (flambé) are caused by jets of heat—for the atmosphere of the kiln is so incandescent we cannot talk of flame—which attack certain portions of the coating of the piece, and, by this greater degree of heat, modifies the tone or colour of the mineral element with which it is decorated. Upon this head, M. Jacquemart, who has the most earnestly studied Oriental art, and can therefore discourse the best on it, says: "The scarlet coating attains an incomparably picturesque aspect: the surface is diapered with veined, flickering, capricious hues, like the flame of a bowl of punch; the red oxydule passes out of violet

to pale blue, and to green protoxide, evaporating altogether in particular pieces whitened by the fiery ordeal, and thus furnishing happy strokes not accorded to the brush of the painter."

These lovely interfused tints of violet, turquoise blue, and green, which the designed and cunningly-concealed inequality of thickness in the decoration causes to vibrate deeply, and, as it were, to palpitate, are attributed to the most ancient manufactories, and are ardently sought after. At the sale at Ferol, in March, 1863, a diminutive ovoid urn, eleven centimètres (about eight or nine inches) in height, the brim swollen out in a thick cushiony edge, entirely enamelled in green camellia leaves, with large crackles, fetched the sum of £48 4s. (1205 francs). It forms now part of the collection of M. H. Barbet de Jouy, and would fetch double the money. More recently, a carp and its carplings, enamelled in intense violet, exceeded £120 (3000 francs).

STAND OF A CHINESE VASE OF CARVED WOOD.

In the middle of the eighteenth century, a grotesque, without its fellow, in turquoise blue, was sold for not less than £340.

As far as is possible the Chinese of the present day are able to perform these marvels of decoration and of baking which distinguish the work of their ancestors. The Chinaman's adeptness of imitation approaches to genius. The case of an English captain who upset an inkstand on his dress-trousers is well known: he dropped anchor in a Chinese port, summoned a tailor, and asked the man if he could produce a similar cloth in that country, and make a pair of trousers for him out of it. The tailor replied that he could: fifteen days after he brought the trousers exactly imitated after the original pattern; so exactly, indeed, that the blot of ink was scrupulously imitated.

At every period, owing to the high estimation in which old porcelain was held by the Chinese mandarins, forgers have sprung up to imitate

it. One of their authors relates the following anecdote of a famous artist, called Tcheou-tan-tsiouen. This worthy chanced to be going through Pi-ling, so he bethought him of paying a visit to Thang, the President of the Sacrifices, and, when in his presence, asked him for permission to make a leisurely examination of an ancient porcelain tripod of Ting, which was the ornament of his cabinet. He took an exact measure of it with his hand; then, with a paper that he squeezed in his sleeve, he obtained an impression of the veins of the tripod. Six months afterwards he returned to Pi-ling, and again called on the venerable Thang. Drawing a tripod from his pocket, "Your highness," said he, "possesses a perfume-pan in the form of a tripod, in white porcelain, of Ting: here is one like it that I also possess." Thang was astounded. He compared it with the ancient tripod which he preserved religiously, and discovered not a hair's difference between them. He put it on his own stand, and placed the cover of his own tripod on it, and perceived that they fitted with admirable precision. Then only did Tcheou avow the deception, or rather the mystification. It will be conceived that where there are such adept imitators, it is exceedingly difficult for the expertest of Europeans to avoid being led into errors of judgment.

The Chinese are great collectors, very rich, and very patient. Still, the taste for collecting does not seem to be of old date among them; at least, in the seventeenth and eighteenth centuries the Dutch managed to import very costly pieces into Europe, which they have since been seeking after to export back to China. It is stated, that when our soldiers had sacked the summer palace, which was at once the Louvre, the Versailles, and a magazine of the *menu plaisirs* of the Emperors, they found purchasers in the mandarins even of the fragments of old porcelain which they had picked up. We know that latterly no pieces of any great importance have come to France.

It is only by long experience, joined to a sort of natural instinct, that one can distinguish that, for instance, pieces of modern manufacture are less sonorous than the ancient. The most ancient pieces known at the present day can be traced back no farther than the Ming dynasty, which flourished in the fourteenth century. The sign-marks published by several authors, particularly M. Stanislas Julien, in his "History of Chinese Porcelain," can help us but vaguely, and are always dangerous guides. These blue marks, such as a leaf

or a square tied with ribbons, are not sign-marks of the manufacture, but signify a religious or titular dedication. But of what use at all are the marks? In the decorated pieces, these literal, absolute copies are always likely to perplex the connoisseur, still there is in the costume, the attributes, the subject, the execution, and the repeated choice of a theme, sufficient to permit of a general classification. A style of decoration made fashionable by ruling influences—political,

URN, CUP, AND WATER-BOTTLE.
(Chinese porcelain.)

philosophical, or literary—would, in a country pre-eminently wedded to established forms like this, continue for a long series of years to reproduce it as faithfully as we see that Egyptian art has done with its hieratic type.

These decorations have been divided into groups or "families." The "Green family" is very easily discernible. Besides being distinguished at a glance by a bold rich green, that shows strikingly on a rather creamy white paste, the figures presented are mostly

literati reciting verses, philosophers meditating, or divinities appearing. Green had been chosen by the Ming dynasty for its livery—yellow is the colour of the existing Tartar dynasty—so that in the fifteenth century green was naturally in favour. Should you perceive a warrior, it will be he of whom the great poet of the dynasty of the Thangs (in the year 750 of our era), Li-taï-pé,* has given the salient portrait:—"The borderer never has opened a book in his life, but he can hunt, he is alert, strong, and hardy. In the autumn, fat is his horse, for the grass of his meadows suits him capitally; when he gallops he outstrips his shadow. See what a superb and haughty air he has! He flicks the snow with his cracking whip, as it rattles in its golden case. Full of a generous wine, he calls his falcon and is off into the wilderness. Never does that bow of his, rounded by the force of his puissant arm, unbend vainly; struck at one stroke by his whistling arrow, often will two birds drop simultaneously. They who live on the sea coast make way for him, every one."

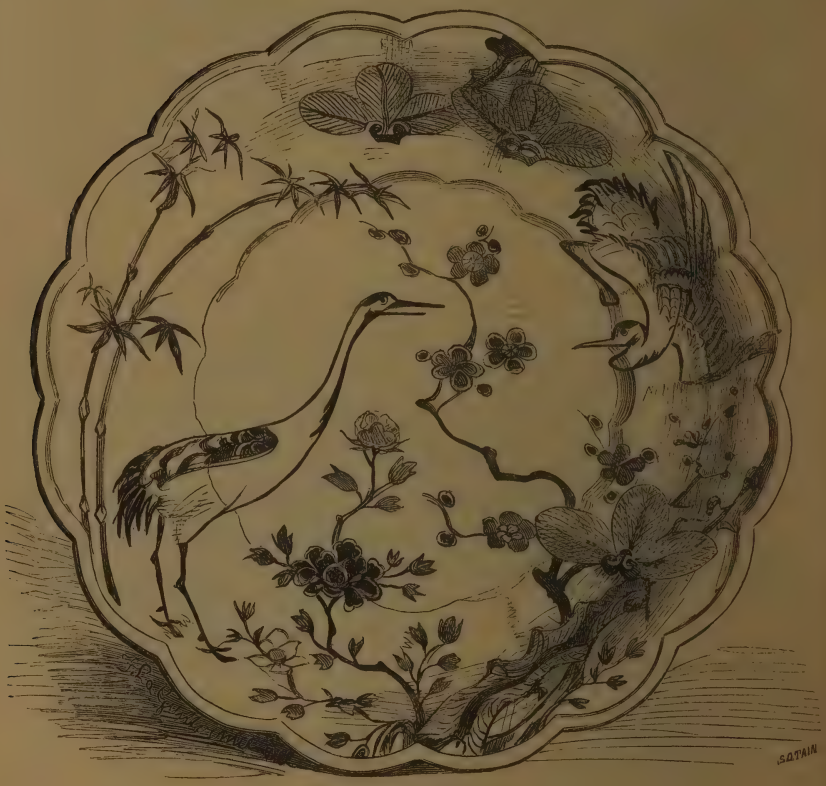
The "Green family" also has mythological scenes, historical incidents, scenes of domestic repose peculiar to earlier times, robust types of men with wrinkled eyes, high cheekbones, thin flowing beard, and cranium bald as a pelican's.

If we may be allowed to base a supposition upon instinct, we should say that there are a thousand peculiarities which lead us to suspect what is called the "Rose family" to have at least sprung from Japan. But we must here confess that it is almost impossible to indicate the points of difference between Chinese and Japanese porcelain, except that, since the eighteenth century, the latter has been held to be the more perfect and better decorated. When the Japanese ambassadors came lately to France, they seemed astonished that the question should be put to them. They were unable in the Ceramic museum of Sèvres to identify a single piece, and assured us that no one in their country troubled himself with such distinction. Simple Japanese! *Sancta simplicitas*, who refuse to let enjoyment be directed by erudition!

The secrets of the art of porcelain were communicated to Japan in the spring of the year 27 B.C., from the Corea. The Corea is that

* Poetry of the epoch of the Thangs, in the seventh, eighth, and ninth centuries of our era, now first translated from the original Chinese by Marquis d'Hervey Saint-Denis.

peninsula terminating the Mantchour territory southward, and pushing forth like a promontory between the sea of Japan and the Yellow Sea. It is to the Corea (which appears destined to serve as an amicable link between China and the island of Nipon), that certain porcelain of a heavy, ancient look may be referred. Springing from a keen, ardent,



DISH WITH HERONS.
(Ancient Japanese porcelain.)

artistic race, the Japanese are quicker than any other in the world to grasp the secrets of manufacture, and stamp on the decoration a singular charm and splendour that has certainly never been surpassed. The most ancient porcelains, they tell us, are distinguishable by the mark left underneath by the impression of five or six little pieces of

paste that supported the plate or dish during the baking. This peculiarity may be observed on the reverse of the dish, ornamented with herons, in the accompanying illustration. There is a further detail that the engraver could not render; in the margin, under the branches and gilt leaves spreading between the birds, standing out in relief in the paste, there are daisies and chrysanthemums, a flower that is to the sovereign prince of this feudal isle what the lily was to our French kings.

We must, therefore, do honour to Japan for having, at least originally invented the whole of the family in which the rose tint, commonly set off by a field of black, predominates. By turning over the leaves of their albums—modern, no doubt, but illustrating in swift and vigorous touches the physiognomy of this arch, *spirituel* people—we encounter the same subjects which used to delight their ancestors. Who has not seen one of those cups, for tea or spirits, with the saucer and cover upon which a fine feather-legged cock stands bridling? And those dishes of so thin and transparent a porcelain, that they are denominated "egg-shells," where, in a corner, in contempt of the silly notions of symmetry which mislead the European, the artist has placed on the branch of a blooming peach-tree a tomtit darting on a caterpillar, or a sparrow watching a butterfly?

From this group we except only, as not being Japanese, the scenes taken from Chinese history and well-known comedies: the amazons caracoling in the court-yard of the palace, upon red or rose-tinted horses, and those youthful matrons who polish their finger-nails in a reverie, while their young ones roll at their feet, or plunge embracing amid their petticoats.

The period of courtly gallantry, which plays a considerable part in Japan, where women are less rigorously looked after, had but a short term in China towards the year 300 of our era. One of their poets then painted this delicious portrait:

"Oh, the lovely creature! how elegant, how charming she is when her hand is stretched out plucking mulberry-leaves by the road side! Her sleeve, slightly drawn back, shows a pure white hand; her delicate wrist is clasped by a golden bracelet; there is a golden sparrow on the pin confining her hair; her girdle is ornamented with oblong blue stones, that dangle, trembling. She has round her neck a necklace all of pearls, of higher polish than the jade-stone, held up by

an *agrafe* of coral and coloured stones. The tight folds of her silken dress are exquisitely tortured by the wind. You would think that you saw softly floating one of the translucent vapours that are the chariots of the immortals. The traveller passing involuntarily checks his horse to gaze at her."

Is it not the image of this fair damsel that we behold on those delicate decorations, enamelled in a soft relief of yellow, blue, and green pearls, and where the thin fine lines cross and form patterns like the finest black lace?

We have learnt, since the eighteenth century, to attribute to Japanese workmanship the gorgeous dishes where peonies and chrysanthemums bloom full face or are distributed in squares, as on a coat of arms. It has been said, some pages back, that the decoration of the Persians presented a side-view of a garden: that of the Japanese, on the contrary, offers the bird's-eye-view of a flower-bed all but foreshortened; the stakes supporting the stems are almost in aërial perspective; the long winding stretches of blue are brooks, and occasionally alleys strewn with coloured sands. The imperial tree, the paulownia, is frequent here, flower or leaf.

To arrive at an opinion upon the delicate subject of classification, and in order to feel the differences existing in the powers of expression of the two peoples, one must compare the album paintings on rice paper of the Chinese with the albums printed in colours of the Japanese. The albums of the Chinese are drawn with a laborious, embarrassed hand, significant in the execution displayed of their proverbial reputation for patience. Those of the Japanese, on the other hand, are printed in bold vivid tints, that leave our oily, yellow and dull chromo-lithographs far behind. The sketches are of inexhaustible variety: there are warriors, with helmets bearing stag-horns at the temples, and beetle antennæ at the front; slender women, done all in white, with black-stained eyebrows and mouth of carmine, pins of lacquered wood thick in their hair, crowned with wreaths of chrysanthemums and gold paper, reading verses, turning over the leaves of albums. Then there are tragic scenes, troops disembarking, tempests, fights, conflagrations, landscapes, purple under the setting sun; the apparition of divinities, amidst clouds or vapours of the lake; gatherings on palace-terraces, to the sound of music and sweet voices. The most curious series of all is that of the twenty-eight portfolios of the

VASE, EWER, AND DISH.

(Japanese Porcelain.)

Page 144.

Oriental porcelain. The manufacturer, undoubtedly, in this manner preserves his honourable name; yet one would imagine that he might render the imposture somewhat more difficult by impressing the stamp of his house in the paste. No one could take these imitations for the finest Oriental pieces; it is easy, however, to confound them with others of the second order. Nevertheless, the paste is dull and embrowned; the narrow red line surrounding the birds and the flowers is dry, the flowers are insipid, and the gold badly laid on. Curious as are these counterfeits, from an industrial point of view, they are severely to be blamed for their perversion of the public taste in teaching it to admire unworthy copies to the detriment of our national productions.

Before quitting these countries, which gave birth to one of the most precious inventions of man, and, as is generally the case in such instances, saw it reach its highest point of perfection, we may as well explain what was meant in the eighteenth century by "Indian porcelain," and what is still understood by the words "porcelain of the India Company." Agents in Jeddo, the capital of Nipon, receive orders for whole ship-loads, and they, in turn, give their orders to a number of petty manufacturers. The result, in French commercial phrase, is a collection of "trumpery," for the fatal consequences of competition and useless diffusion, and possibly of cheapness too, are everywhere the same, and lead to a degradation of taste notably in the spirit of invention. Up to this period Japan was free from the mechanical repetition of work which is carried in China as far as it will go. There, every workman, through the whole course of his life, is condemned to produce one distinct article—he paints the garments, or the flesh, or the trees, or the clouds, and this is a law of imitation and devout respect for the ancient types; we see traces of it in their poetry, surcharged with allusions and *pastiche* reproduction. The Japanese have incontestably the livelier fancy and the quicker hand; but now, when the merchant-captain gives orders for 10,000 vases of No. 12 pattern, and 15,000 dinner-services of No. 25 pattern, the whole to be delivered in the shortest time possible, and at the lowest price, what is the result? Modern Japan gives us nothing but flimsy decorations and China trashy copies.

Indian porcelain of the eighteenth century was an European commercial production, executed in Japan, and, curiously enough, Europe

generally supplied the models. The paste of the wash-hand basin in the shape of a shell, and of the helmet-shaped ewer which we have had copied, is of a bluish colour, much like the blue starch used by laundresses, and the blue decoration is devoid of sharp outline. The

BASIN AND HELMET-SHAPED EWER.
(Indian porcelain, eighteenth century.)

Jesuit fathers, and intermediary commercial Dutch, undertook, during the seventeenth and eighteenth centuries, to get arms, and crests, and mottoes stamped on the dinner and toilette services. Both to the

Chinese and the Japanese, engravings after Watteau or Chardin, or German masters, such as Nilson, were brought, and they, with the most grotesque of pencils, executed scenes from "The Geese of Father Philip," "The Story of Telemachus and Calypso," "The Prodigal Son," &c. Nothing could be sadder.

The exact period of the introduction of Oriental porcelain into Europe is unknown. There is a tacit consent to recognize them in those murrhine vases—so ardently prized by the wealthy Romans, that Nero gave three hundred talents for one—although the text of Pliny may designate a different substance. For us it cannot be doubtful that Greek Ceramic Art was inspired by that of the East—Persian, Indian, or Chinese. Thus the little ornament running in the form of what is called a "Greek" frieze, is found on Chinese works of high antiquity; the waves of the sea are rendered by sets of purely conventional intervalved lines, which are the same as those on the Greek vases. Owing to the extreme difficulty of communication between the two countries, by means of caravans, these porcelains were necessarily precious, and their fragility made them very rare.

The narrative of the voyages and travels of Marco Paulo, printed for Charles, the father of Philippe le Bel, in 1484, from a manuscript written in 1307, created a lively interest in the objects mentioned by him, of which specimens were already extant; but it is not before the fifteenth century that we discover in the inventory of royal and princely treasures an enumeration of pieces of porcelain. Up to that period, according to M. Laborde, whose erudition may be trusted, the term "porcelain" in the lists signified mother-of-pearl.

With what admiration must our western virtuosi have welcomed these vases brought over from far countries; "the enamel as luminous as the finest crystal," capable of withstanding the heat of fire, and fashioned to resist both the indentation of the fork and the edge of the carving-knife! The testimony of Passeri has been cited, to show how rapidly these vases and plates caused the faïence on the sideboards of Italy to be forgotten. It was the same everywhere. The dauphin, son of Louis XIV., collected pieces of exceptional beauty, as regards substance, size, and decoration, for his cabinet, and the example was followed by the bourgeoisie. In the middle of the eighteenth century, within the space of a single year, teacups, "brown and blue," to the number of 307,318, entered Holland. At the Duc d'Aumont's sale,

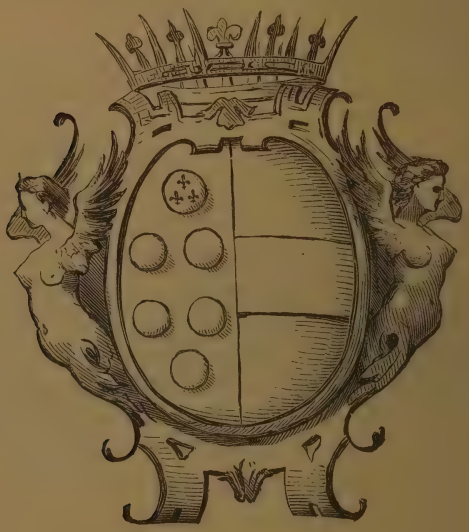
in 1782, vases, of a shape swelling heavily from centre to pediment, and round perfume-pans, in old Japanese ware, fetched 7000 and as much as 7501 livres (£375 1*s.*) the pair.

The seventeenth century *savans* pronounced their opinion of the composition of porcelain thus: that it was a "conglomeration of plaster, eggs, the scales of sea-beasts, and others of a similar species; which substances, being well mixed and stuck together, was secretly buried in the earth by the father of the family, who informed none but his children thereof; and that it remained hidden for a space of fourscore years, and after this period the inheritors dug it up, and, finding it ripe for its purpose, made of it the costly, transparent vases, so beautiful to the eye in form and colour, that no single artificer had a word to say against it."

Finally, in the midst of a society where poison played so terrible a part, doctors of medicine, anxious to shelter themselves behind prejudices that relieved them of their responsibility, agreed, without discussion, that bowls of porcelain, equally with tortoise-shell cups, and horns of the unicorn and rhinoceros, gave warning of the presence of poison. "This fact is satisfactorily proved," wrote a commentator on Pancirol, in a letter to Simon Simonius, physician to Maximilian, Archduke of Austria. The letter accompanied a piece of porcelain, sent from Prague to Leipsic, from Simonius to his well-beloved son-in-law. "They found it," he continues, "among the treasures of the Pasha of Buda, now a prisoner in Vienna. It is in these kinds of vases that the Turks drink water (*sorbets*) and take their soup, for it is believed that a sudden clouding of the transparency indicates the presence of poison. I would not exchange it for a vase in silver of equal weight, for I believe the substance to be pure and undebased: I have the guarantee for its excellence in the fact that a chief so powerful as the pasha has thought fit to make use of it."

Efforts were expended on all sides to imitate it; but kaolin, the primary element of porcelain, was wanting to the Ceramists. Will it be credited? The family of the Medici, whose sensibility to the arts was so great, and who protected them so royally, penetrated the secret in the middle of the sixteenth century, and lost it—owing, no doubt, to that craft-jealousy peculiar to the times. In the *Relazione* of Andrea Gucconi, despatched to the court of Florence from Venice in 1576, to offer Duke Frances, son of Cosmo I., the complimentary

condolences of the Republic, we read: "The prince takes little pleasure in the chase, or in other fatiguing exercises, but all his occupation is to further the development of certain crafts, in which he professes to have found and invented new processes, as in fact is the case. He has discovered the method of making Indian porcelain, and succeeds in all his essays to rival its qualities, that is to say, the transparency, the baking, and he makes it quite as light and as delicate. I am told that it cost him ten years to discover the secret of it. A Levantine put him on the track. He then had a man to make experiments every day. He spoilt thousands of pieces before he managed to produce a perfect example."



ARMS OF THE HOUSE OF MEDICI.

Specimens of this porcelain have come down to us. It was not "hard" porcelain, like the Oriental, but "soft;" that is, of a crystalline frit composition kneaded with white, clayey earth, which is not kaolin. These precious specimens have for the most part found their way into the collections of the Rothschild family. A landscape painter, M. Jules Michelin, an amateur of refined taste, whose disinterestedness cannot be too highly praised, has presented to the Ceramic Museum of Sèvres a square, narrow-necked bottle, which

shows, by its argillaceous texture, that it was still some way off perfection. The decoration is in blue camaieu, with a sort of manganese violet line. On one face of the bottle the arms of Philip II., with the collar of the golden fleece and the crown, are borne in a rich escutcheon. Grotesques peep out there from among quaint flowers and foliage. It is probable that, as in the Oiron faïences, the manufacture was limited to a supply of Royal and princely presents.

The letter F stamped on the reverse of some of the pieces is the initial of Firenze (Florence), and the dome is that of Santa Maria della Fiore, of Florence; the six pattini, or small balls, bearing the initials, are the fundamental parts of the Medici escutcheon.

The discovery of these first attempts to manufacture porcelain is of recent date; it in no way detracts from the merit of Saxony in having

MARKS OF THE MEDICI PORCELAINS.

popularized the process, and discovered the true substance; the story of which is highly romantic.

John Frederick Böttger was born in Vogtland, in 1682. His father was an ardent seeker for the philosopher's stone. The son followed in the steps of his father, and took service with an old apothecary of Berlin, by name Zorn, who was himself casting looks of courtship at Mistress Alchemy. The King of Saxony, Frederick Augustus, Elector and King of Poland, excited by the young man's reputation, sought to take possession of him exclusively, and when Böttger had been brought back, after an attempted flight into the territory of the King of Prussia, Frederick Augustus shut him up in the Castle of Witten-

berg, and placed over him Ehrenfried Walther de Tschirnhauss, who, himself a chemist, had also studied mineralogy. This latter person, at the apparition of porcelain, had done his best to imitate it, but had produced nothing better than milky glass. For the composition of Böttger's crucibles, Tschirnhauss supplied him with the most refractory clays. He furnished him with the elements of very hard pottery, having all the qualities of porcelain, except its translucency.

Great was the joy in the laboratory! To prevent any whisper of the hopes of the two *collaborateurs* from getting abroad, the king had a laboratory built for them in the Albrechtsburg at Meissen. Touching solicitude! A Royal recompense for all the success hitherto obtained.

Tschirnhauss died in 1708, and did not live to witness his associate's success, after a thousand disappointments, in producing his red stoneware pottery, called "red porcelain." It had no luminousness, and to give it something of the sort it was necessary to polish it on the lapidary's wheel.

It was nevertheless a great success. But now behold, in 1711, a certain John Schnorr, an ironsmith, traversing the environs of Aue, observed the white mire in which his horse was stepping, and imagined it would prove a cheap substitute for the flour then used for powdering wigs. He collected some in his handkerchief, made experiments with it, and ultimately sent it out largely for sale. Some time after, Böttger was surprised at the unaccustomed weight of his peruke; he shook it, examined the white powder that flew out, had the remainder of the packet brought to him, and chancing, as he took it between his fingers, to manipulate it like a plastic clay, he perceived suddenly, in a delirium of joy, that he had discovered the chief substance of porcelain—kaolin. The fact of the positive discovery having been verified, the elector determined to keep exclusive possession of the secret, and had an official manufactory built inside the Albrechtsburg, of which Böttger became the director. It was a veritable fortress, and had the drawbridge always raised: none but the workmen could enter or go forth at stated periods, and these were bound by a solemn oath to keep till death the secret which their opportunities might have helped them to penetrate; they were aware that whichever one of them should dare to betray it, would be thrown, as a State prisoner, into the dungeons of Kœnigstein, till death.

Despite these terrors, a workman, named Kozel, fled to Vienna,

THE SKATING PARTY.

(Group of Viennese Porcelain. 1750.)

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before the death of Böttger, carrying the secret with him. The gay and lively group known as the *Skating Party*, is in porcelain of Vienna, founded in 1720. The manufactory became, subsequent to the year 1744, the property of Maria Theresa, and turned out veritable *chefs d'œuvre* of elegance and delicacy. It was then that its works were stamped with the subjoined mark, in blue. The manufactory still exists, but as a private establishment.*

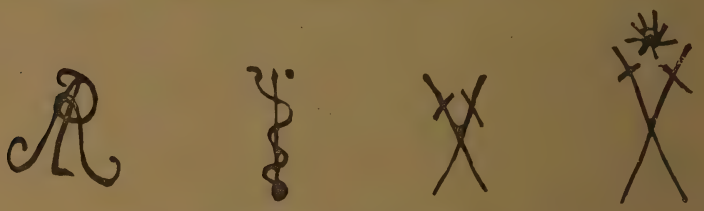
Marvels were done by Böttger's successors in the manufactory at Meissen. An age like that of the eighteenth was wanted to prompt the genius of the Germans to such a display of gaiety and animation. All Europe went to them for the ornamentation of their shelves and tables. Old Dresden imitated at first China or Japan China so effectually as to deceive the most experienced. Its decorations have a bold, golden tone, with a thickness that will not be forgotten after an inspection of one choice specimen. About the year 1760, a modeller, named Kandler, executed the principal groups which have made Saxony famous, and are only equalled by Sèvres and Chelsea. The *Five Senses*, the *Mariage à la mode*, the *Tailor of the Count de Brühl and his Wife*, mounted, he on a ram, she on a goat; a hundred little amorini as hussars, as Hercules, doctors, apothecaries, gardeners; musical apes, soldiers, and people of all conditions; the Muses on Mount Olympus; the theological virtues and Italian comedy—there is a whole world here, laughing, singing, simpering, fretting, grimacing, kissing, undressing, all with a *naïveté*, an archness, a suppleness, and buffoonery, truly astounding in their diversity.

The clocks, candelabra, and other table ornaments, are "rococo," and occasionally less successful. It is not often that we meet so bold a form, and so happy a Watteau decoration, as on a vase kindly confided to us by M. L. Double.

The mark of Saxony, the two crossed swords of the Electorate, have been too often repeated or counterfeited for it to be necessary that we should reproduce it. Suffice it that the manufacture commenced with the monogram of the king, *Augustus Rex;* that a sort of caduceus is the mark of the first period; that the crossed swords succeeded it in

* In consequence of the great annual expense to the State, by which it was sustained, in 1864 the Vienna porcelain manufactory was discontinued, and all the implements and utensils sold.—Ed.

1742, and that when these swords have also a star or a dot, they signify an extremely delicate and choice piece of workmanship, executed under the superintendence of Marcolini, about 1780.



MARKS OF THE PORCELAIN OF SAXONY FROM THE DATE OF ITS ORIGIN.

Most of the original moulds of Meissen or of Dresden are still in existence, notably those of the little white long-haired lap-dogs, whose eyes are veiled by shaggy brows like the weeping willow. They furnish good examples, but there is generally a want of harmony in the colouring. Old Dresden fetched the highest prices in England. At the sale of the Bernal collection, some few years back, a pair of candelabra in Dresden porcelain, twenty-four inches in height, composed of a draped female figure seated on a pedestal, with children holding escutcheons, and herself supporting a stem with five branches, was bought by the Marquis of Bath for £251.

Germany, Prussia, Austria, Russia, Denmark, Switzerland, and England, imitated Dresden China more or less successfully. But we must quit Dresden to enter France, which had likewise its long course of triumphs.

Louis Poterat, of St. Etienne, obtained in the year 1673 letters patent authorizing him to manufacture, at Rouen, porcelain "in imitation of that of China and Japan." In 1664, at Paris, Claude Révérend pledged himself "to imitate porcelain as fine and finer than that coming from the Indies." These two manufacturers, of whom the first appears to have been a famous Ceramist, were inspired by the imitations of porcelain made by the potters of Delft.

In 1698, an English physician and traveller, named Martin Lister, wrote: "I have seen the pottery of St. Cloud, and I have not been able to find any difference between the articles produced by this establishment and the finest Chinese porcelain I have ever seen. These pieces are sold at a very high price at St. Cloud. Many crowns are asked for a single chocolate-cup." Two years later,

VASE OF OLD DRESDEN PORCELAIN.

(In Mons. Leopold Double's Collection.)

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Legrand d'Aussy writes in his diary: "On the 3rd of last month, the Duchess of Burgundy, having passed St. Cloud and wound along the river-bank in order to call upon the Duchess of Guiche, stopped her carriage at the door of the house where MM. Chicaneau have established their manufactory of fine porcelain, which, without question, has not its equal in all Europe." There is exaggeration here, but it proves the large degree of interest taken in the imitation of the precious productions of the East. In reality, the porcelain of St. Cloud, examples of which are known, imitates tolerably well the Chinese white, but is nothing more than a soft ware, coated with a lead varnish, yellowish, and often run in drops.

We give here the mark, of 1702, of the soft ware of St. Cloud: the sun was an allusion to the privileges granted by Louis XIV.

Trou, an associate at first of the MM. Chicaneau, worked on subsequently on his own account, under the patronage of the Duke of Orleans.

In 1708, a manufactory of porcelain was established at Lille, but not, as it appears, with any brilliant success.

Chantilly, was continued, if not founded, by the Brothers Dubois, after deserting the St. Cloud manufactory, under the protection of the Prince de Condé, and took for its mark a hunting-horn. The services in soft porcelain, decorated with blue flowers of no precise form, are in very sober taste; still it is nothing but soft porcelain.

It will be noted that it was the fashion among the nobles and members of the royal family to patronise the porcelain manufactures: in 1735 we find, in addition, that Menecy-Villeroy * was established

MONOGRAM OF THE DUC DE VILLEROY.

MONOGRAM OF SCEAUX.

MARK OF ORLEANS.

* It may be stated as a principle, that typographical reproduction of marks are almost useless. In striving, as M. Greslou has done, to imitate them in coloured inks, their real aspect is missed: one particular mark is never—save when a stamp is introduced into the paste—repeated identically on every piece: the swords of Dresden, for example, have either been counterfeited or altered intentionally in all countries. Still we come upon a certain number of them occasionally, upon pieces possessing

under the protection of the Duke of Villeroy. In 1750, Sceaux-Penthièvre. Later, in 1750, Orleans stamps its hard pastes with the label of the Duc de Penthièvre.

Vincennes, at last, is leading us to Sèvres. The Brothers Dubois, having failed at St. Cloud and at Chantilly, came in 1740 to M. Orry de Fulvy, commissioner of the treasury, proposing to divulge the true secret of porcelain. They were installed at Vincennes, and failed again. But one of their workmen, by name Gravant, actually hit upon the method of producing soft porcelain. In 1745, Orry de Fulvy formed a company of eight partners, and privilege to manufacture for a space of thirty years was granted to him under the name of Charles Adam. The establishment was located in the official building of the commissioner at Vincennes.

Great success attended the effort to produce those bouquets in relief imitating nature, pinks, anemones, poppies, wild roses, of which each petal, separately modelled in the hollow of the workman's hand,

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interest, and of which the reader may desire to learn the signification. Here are a few borrowed from the book of M. Greslou, whom we have just mentioned, *Recherches sur la Céramique*. These marks are generally painted in gold under choice pieces.

HOCHST OR MAYENCE.
Arms of the Archbishop of Mayence.

NYON IN SWITZERLAND.

BERLIN.
Hard porcelain.

TOURNAY.
Soft porcelain.

NIDERVILLER.
Monogram of Count Custine.

LOUISBOURG.
Monogram of Prince Charles Eugène.

LILLE.
Crest of the Dauphin.

CHELSEA.
Soft paste.

CHELSEA DERBY.

DERBY.

bears on its reverse side the impression of the lines of the skin, whilst the petals of the flowers produced in the present day are poured from the mould, and are, consequently, quite smooth. The model of those artificial flowers, encircling the dials of clocks and ornamenting candlesticks, &c., was furnished to us by Dresden, which has always coloured them with a peculiar delicacy. They are the flora of the salons.

In 1752, a decree of the council revoked the privilege granted to Adam, and decided that "the pieces of the said manufacture shall be marked with a double L, interlaced in the form of a cipher." The following year King Louis XV. shared a third of the expenses. To give the mark a chronological value, a letter of the alphabet was added to it, which was changed every year.*

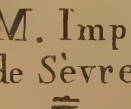
In 1754 the Empress of Russia, watchful of all that was passing in Europe as regarded letters, sciences, arts, and industry, gave an order for the celebrated service known as the "cameo" service, which did not cost less than 360,000 livres (Tournois).

The establishment became too small for its daily-increasing success. Buildings (now falling into ruin) were erected at Sèvres, and it was there that the manufactory, of which the king became sole proprietor in 1760, was transported in 1756. Boileau, who had presided over the works at Vincennes, and had acquired the secret of gilding,

* The following are the series of marks adopted by the manufactory of Sèvres from the period of its origin down to our days :—

The letter A, in the middle of the two interlaced L's, in blue or in gold, indicates the year 1753 : B, 1754, thus up to 1776, when the letters are doubled, thus : CC, 1780.

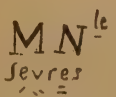
This was used from 1804 to 1810 :



From 1792 to 1800, the monogram of the French Republic above the name of the manufactory.

From 1810 to 1814, the eagle, in red :

From 1800 to 1804, in red :



From 1814 to 1824, the interlaced L's of the eighteenth century in blue, with a fleur-de-lis, *Sèvres*, and the two last ciphers of the date; and under Charles X., the L's displaced by C's.

retained the directorship. It was to Madame de Pompadour that the encouragement extended to this seductive branch of industry was due.

Up to this period the manufactory produced nothing but those soft pastes, so much sought after in our days, that have a true stamp of aristocracy. But the main endeavour was to accomplish the production of Chinese porcelain, as Dresden had succeeded in doing. In 1761, one of the Hannongs, whose father had founded Frankenthal, offered to divulge the secret of Dresden porcelain for a high price, but the primary substance, kaolin, was still wanting. Réaumur had indeed invented a sort of vitrified glass, opaque, and having a semblance of porcelain, but it was nothing but a semblance.

Chance led to the discovery, in 1768, of a bed of kaolin of extraordinary richness in France. The wife of a surgeon of St. Yrieux, near Limoges, a Madame Darnet, picked up in a ravine and presented to her husband a lump of curious white earth, which had struck her as likely to possess the properties of soap. Darnet took a sample of it to one Villaris, an apothecary at Bordeaux, who recognized it as kaolin, and at once forwarded it to Sèvres, to have experiments made upon it. There should be still, in the Ceramic Museum, a statuette of Bacchus modelled with this very kaolin. The sadly-comical part of

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The series under Louis Philippe runs thus:

Under the Republic of 1848, the mark is:

Finally, those adopted during the present reign:

The letters, the signs, and frequently the *rébus*, are those adopted by the gilders and decorative painters of flowers, sea-pieces, landscapes, symbols, &c. They are contained in a list that M. Jacquémart gives in his excellent history of porcelain, carefully copied from the registers of the manufactory.

the story is, that it was Villaris who got £1000 from the Government for discovering the bed of kaolin. In 1825, Madame Darnet was still living, and in a state of wretched poverty; she is heard of begging for assistance to return to St. Yrieux-la-Perche, on foot, as she had left it. On the application of M. Brongniart, in disgust at so melancholy a rendering of the *sic vos non vobis*, the King, Louis XVIII., granted her a small pension from the civil list. To put the case in figures, France, in 1765, imported £12,000 worth of hard porcelain: ten years after the discovery of the St. Yrieux beds of kaolin, her exports were to the same amount.

Kaolin may be likened to those treasures in fairy tales, which hide themselves from the cunning and reveal themselves to the innocent. A bed was discovered at Rudolstadt, in Thuringia, by a good woman who brought to a chemist what she called "a white dust, excellent for drying ink on paper."

Perhaps nothing in French art or industry will be found to equal the influence gained for us in Europe by the manufactory of Sèvres. Saxony had spread the fashion, but the French taste and charm was now seen to triumph, while during and since the middle of the eighteenth century nothing has surpassed it. At this period French *esprit* recovered full possession of its faculties, imitated no more, and lived on its own capital: it was itself, alert, winged, polished, learned without stiffness, philosophical in the *salon* as in the press. Sèvres is, in some sort, the "illustration" of this chapter in the history of France, where our art is displayed most characteristically, and the fragile leaves must not be smiled at. Conquests by arms are subject to strange reverses of fortune, and the future rarely confirms the most promising of grand political programmes. The discoveries of science have an altogether relative greatness; they are but the successively-forged links of a chain that passes through the laboratory of a chemist, and stretches to no one knows whither: they are unstable as science itself, of which the centre is perpetually shifting. The creations of art only are living facts, in whatever form they are produced: the sublimity essentially belonging to the Parthenon, the Venus of Milo, the Syracusan medallions, to all Greek art, is immovable; nothing can extinguish the sublimity of the Bible, of the Greek and Indian poems, of Dante, Shakespeare, and Molière. Material facts are relative—intellectual, absolute.

Is an example required? What are the benefits derived by the France of to-day from the battle of Fontenoy, fought on the 11th of May, 1745? What winds of oblivion have not breathed on the dust of the laurels of Marshal Saxe? Some generations further, and it will

FONTENOY VASE.
(Sèvres porcelain. Collection of M. L. Double.)

be a name that a careless posterity will have allowed to sink more and more into the growing obscurity of hosts of other historical names. But now, does not the monument raised to his memory

at Strasbourg seem to wax more youthful, while it is more and more loudly praised? It was but the other day, that in the sumptuous mansion of M. Léopold Double, an amateur who surrounds himself with none but beautiful objects, we beheld this same battle of Fontenoy, whose date we had forgotten, revived upon two vases that Louis XV. had, without doubt, ordered of the manufactory for the conqueror. Singular heralds to despatch to future ages! some philosopher of the day may have exclaimed. Yet they live in all the lively splendour of their rose groundwork, veined with gold and blue; between green palms the triumphal, mural, and obsidional (grass) crowns are interwoven; Genest has painted, after Morin, military scenes on two large escutcheons; here, the French troops carry the works defended by artillery, and spike the guns; there, they drive back the enemy into the orchards a little way out of the village of Fontenoy. Bachelier composed the warrior trophies, and they give the highest heroical aspect possible to this patent of glory in soft paste.

For another example, Buffon, if he returned in the flesh, and in ruffles, would find many of the volumes of his "Natural History," which has been set aside by recent labours, neglected on the book-stalls, while, at M. Double's, he would still see the service which he called his "Sèvres' Edition." It is a table-service, counting more than a hundred pieces, upon which all the birds described in his book have been painted with the utmost nicety.

Falconnet and Clodion supplied the prettiest subjects for the statuettes in *biscuit*, so called, though the paste has only passed through one baking. Boucher was universally copied in the medallions, in the plates for writing-desks, consoles, tables, flower-stands and pots, inkstands, &c. The Marquis of Hertford possesses a charming inkstand, that was presented by Louis XV. to Marie Antoinette on her arrival in France: the cipher of the Dauphin is at one corner; at the other the arms of France; in the centre is the profile of the King, with his fine arched nose. The cover is a crown; the sand-box and its fellow represent the celestial spheres. What gay and *spirituel* thoughts would not the pen gather from dipping into an inkstand such as that!

But our enthusiasm must be moderated, or it will run ahead of our judgment. The art of Sèvres is far from thoroughly exemplifying the art of the eighteenth century. It is but a feeble side of it, and in

lingering over it our excuse is, that it has an European renown, and that choice specimens are fought for by amateurs with bundles of bank-notes. Three years ago a set of three deep blue vases, decorated with enamels, fetched at a public auction £2520! At the Bernal sale, every article was run up in the same degree by the English aristocracy. The two richest collections are those of the Marquis of Hertford, of which a fractional part was exhibited at the "Exposition Rétrospective de l'Union Centrale," and those of Queen Victoria, at Buckingham Palace. This royal collection was principally formed under the superintendence of Beau Brummel, afterwards bought by George IV. In 1853, Her Most Gracious Majesty exhibited sixty-six pieces, for the edification of the decorative artists, at Marlborough House.

The models are not always good. The forms are frequently slender; in the placing of the medallions or the ciphers the decoration has established that commonplace and wearisome symmetry which is shunned by the Orientals as carefully as our academies patronize it. It is either very dark or without vibration in the blue *de grand feu*,* or uncertain in the green tones, scarcely agreeable in the turquoise or the rose-colour, christened Rose Dubarry. All that could be selected as harmonizing with the simple white decoration of a drawing-room, to garnish the chimney-piece or étagère after decorated or biscuit groups, are certain cups with small flowers and ewers painted with roses or cornflowers.

This royal manufacture continued to live a factitious life up to the close of the eighteenth century, preserving the antiquated grace proper to the sound of the harpsichord, or the faint harmony of hue in water-colours wasted by the light. But, without having produced anything great, Sèvres has realized the ideal of prettiness. The decadence commenced with the Revolution and the Empire, and since them the abyss has not been filled up. Napoleon gave the strongest encouragement to the manufactory, chiefly for the purpose of beating the English and other centres of production. The useful

* The blue and green are almost the only colours used in the Sèvres decoration which will bear without changing the intense heat of the kiln necessary to perfect the vase itself *au grand feu*, and is generally employed as a ground; the other more delicate colours used for the medallions of flowers, &c., are burnt in at a lower degree of temperature, *au feu de réverbère*, or muffle-kiln.

A VESTAL.

(Statuette of Sèvres biscuit.)

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killed the pleasurable, at the same time that the pedantic stifled that conventional but exquisite antique style which the seventeenth century had, with the best faith in the world, bent to its wants and dreams. The architect ejected the decorator and the sculptor, the *savant* oppressed the artist, and the studio was overcome by the laboratory.

M. Brongniart retained the sole directorship till 1847. His "Treatise

PLATE, WITH INITIALS OF MADAME DUBARRY.
(Sèvres porcelain. Collection of M. L. Double.)

on the Ceramic Arts," looked at from a point of view exclusively of art, is the best reminder of his works. He was succeeded by M. Ebelmen. M. Regnault reigns at present, and, like his predecessors, keeps the manufactory in a path that is honourable, but too much given to the system of working out theoretical experiments.

To a certain degree it is commendable. It is well enough, that, in a State manufacture, the most costly experiments and trials of all kinds should be made. Unfortunately, these do no more than fill the pigeon-holes of the archives, while Europe, as well as France, sees the prestige of the manufacture diminishing day by day. It was affirmed, in 1862, with evidence enough to cause anxiety, that the productions of the two rich English Ceramists, Minton and Copeland, were almost equal to our own, and it was seen with astonishment that the large pieces exhibited were by no means up to the mark, even in the manufacturing: there was a great deal of pleasantry in the English journals and correspondence on the copper bands which held the larger vases together, for they are not baked in a single piece.

In the period following 1848, under M. Ebelmen, there was still some elbow-room for art; among the decorations of this time we would select the "Vase de la Guerre," designed by M. Diéterle, and executed by M. Choiselat. Sèvres then counted in its ranks Jean Feuchères, Klagmann, Diéterle, Lessore, A. Choiselat, and Laemlein. Subsequently, Sèvres has gone through the Néo-Greek stage, and its decoration has come out of it a degree lower, so to say, than the temperature of those comets borne by the stern laws of gravitation millions of leagues distant from the sun. One single master, M. Hamon, stamped his lucidly delusive and balanced touch on the figures of the pink and plump young girls walking home gravely, with a lily on the shoulder, holding butterflies with strings, or tinting with blue the corolla of a convolvulus. M. Hamon's painting, either so indistinct or so harsh in his pictures, took a soft and subtle harmony on the polished shining surface of porcelain. There was decidedly, in M. Hamon, the half-awakened soul of a Greek potter, and Sèvres was unable to make any use of it.

Let it not be thought that the manufacture has sunk very low. It is capable of reproducing all the ancient models for amateurs rich enough to pay for their whims. But the experiments also would have to be paid for, and the excitement abandoned of rummaging in curiosity shops, which can do all this better and cheaper.

How many deceptions would be avoided! The spurious imitators have not been tardy in offering for sale "Old Sèvres" bran new, of a kind that would puzzle the devil himself. The veritable soft paste is exceedingly rare. About 1813, the manufactory sold by public

auction, and at a low price, supernumerary and store pieces. Three dealers established themselves in the town of Sèvres itself, and invented a process for removing enamel, tinting the piece with turquoise

VASE OF WAR.
(Modelled at Sèvres, from the designs of M. Diéterle.)

blue, for example, and painting thereon medallions or ornaments. Louis XVIII. accepted a present of a breakfast service, with a *bleu de Roi* ground, decorated with portraits of Louis XIV. and the

beauties of his Court, ordered, it was asserted, by Louis XV., and having long been kept in use by Louis XVI. We do not hear that the donor pretended to have received it directly from Louis XVI., but it is the rule in cases of the sort. The master of the King's household, M. de Pradel, thought fit to ask for more particular information at Sèvres, and learnt that the historical souvenir dated from two to three years back at the farthest! The gilding had not a particle of the character of the old gilding; the tray was posterior to the Revolution, and there was no trace of the monogram of the painter S * * * to be found in the records. Louis XVIII. smiled archly: and for the edification of future amateurs, he presented the audacious imposture to the manufactory, where it may be seen to this day in the glass cabinets of the Ceramic Museum.

For our part, we should see no great harm in the increase of these deceptions. They would force the amateurs to obtain their supplies direct from the manufactory. The latter would resume a beneficial activity, and its youth would be renewed by a closer connection with a choicer public. Sèvres produces the most beautiful paste and the finest white in Europe; after it comes the English, and next the imperial manufactory of St. Petersburg. Let an artist be placed at the head of the works; remunerate properly those masters, painters, or sculptors, whose talent you monopolize; expend on behalf of the beautiful what is now spent for what you call the useful, and you will again ally yourself to the true French tradition, perforce of genius, which is to rise superior by dint of intellectual superiority. Avoid isolation, and be not inaccessible to the modern spirit of progress; try all the paths, after the example of the assiduous and learned keeper of your Ceramic Museum, who, without any bias in any direction, gathers specimens of the pottery of all times and all countries. Lastly, repudiate the term industrial art, which was invented of late years to apply to your art productions, and be determined to reassume, as up to recent times was the custom, your place in the annual exhibitions of painting and sculpture. We want Sèvres to remain as the chief school of fictile art, and, at the same time, to give the tone to commerce in the variety and exquisite taste of its models.

We are bound in justice to state, that those useless *tours de force*, the reproductions of pictures, have been abandoned: useless, inasmuch

as they could not possibly render the real aspect of the originals; that they were not of a size to use them for decoration; and that they perpetuated the most vicious sort of decoration, by the employment of neutral tints and abuse of more distinct ones. If, like the ghosts of the Elysian Fields, the dead are cognizant of what passed upon earth, singular must have been the ejaculations interchanged by Rembrandt and Titian, whenever they learnt that Madame Jacottot was going to give a finishing touch and a last baking to some one of her copies from their works.

One of the happiest efforts of decoration realized in our day consists in applying white pastes on céladon, toned grey, fresh green, coffee, or clear chocolate. The invention dates from about fifteen years back. It has been employed by MM. Choiselat, Regnier, and Gely, with various success.

A young sculptor, M. Solon, has almost made it his own by the skill and taste with which he handles it. Numerous oxides may be employed for the colours producing céladons, and the half-tones are infinite. The most exquisite shade is one reminding us of a "cloud of cream" in a cup of tea. But fire being the abode of malicious little gnomes, it results that the most careful mixtures have hardly much more chance of coming out perfect than those where the palette is left to its own chance, and the Ceramist cannot hope to be absolute master of his projects.

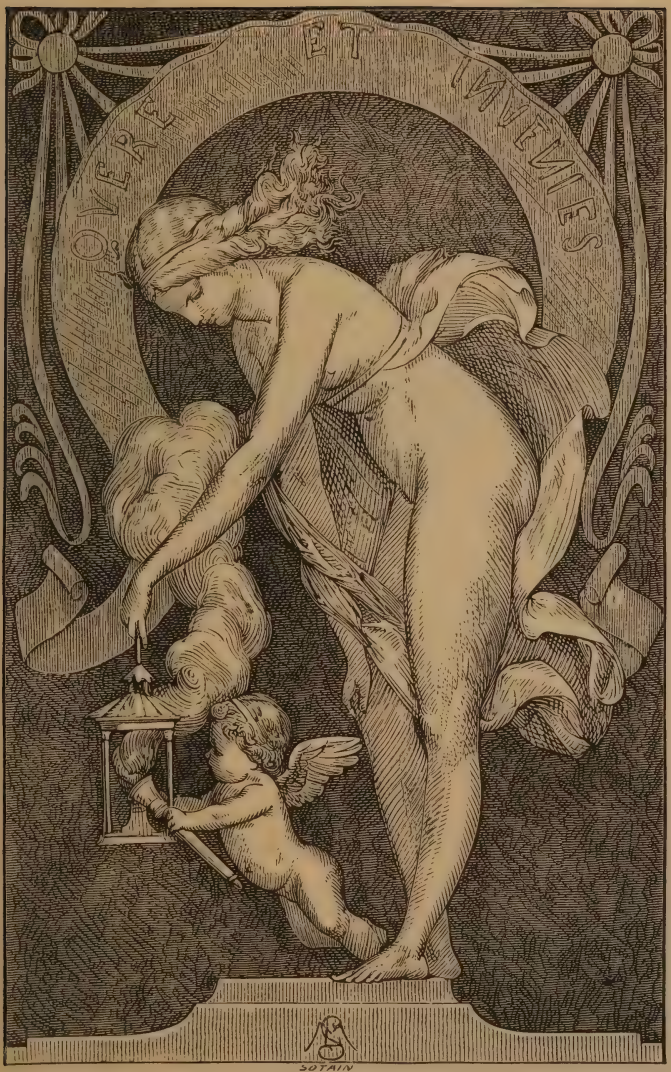
The white paste, or *engobe*, is applied with a brush, in successive layers, on the coloured paste, which itself is embodied with the porcelain, that is to say, a given thickness added to it, either by means of a brush or by immersion; thus making a rough shape, which is afterwards rounded and trimmed with sharp and cutting implements, or by means of a small scraper, until it has attained a given thickness. When this bas-relief is completed (for it is a real bas-relief), it is subjected to the first baking, which gives it consistence enough for it to be dipped at once into the enamel. Lastly, comes the final baking, and, provided the piece has succeeded, nothing can exceed the charm of the result: the thicker portions, in melting, retain a relief which forms the actual outline; on the other hand, the thinner parts enable the ground-work to show through them, and these form the flesh, a cloud, or floating draperies. If the reader is acquainted with Wedgwood's biscuit paste, the figures of which are drawn

in profile, in white on a blue ground, he has only to imagine them to have become transparent, remembering, too, those transparencies of porcelain which were called *lithophanies*. They seem aerial, and floating, half-drowned in a fluid mass. They recall the chalk studies, in white on blue paper, which Proudhon used to draw, and suggest, at the same time, the heads by Correggio, stamped out in Italian stone. Like those mysterious masterpieces, they seem to be gifted with actual palpitations and real smiles.

M. Solon, who also signs his delicate bas-reliefs with the word Milès, is gifted with a perfectly modern sentiment for decoration. These nymphs, who push aside the reeds of the brook; these Psyches, who are lighting a Diogenes lantern; these water nymphs, reclining on the brink of the waters, which flow from their bended urns; these chimeric figures, which stand erect, with bulging throats; and these Medusas, whose hair is composed more of strings of pearls than of snakes;—these are the dream of an artist born in our day, and who only claims of antiquity or the Renaissance the more exquisite details of their fancy. You can, without hesitation, in all security, insert them in the panels of the book-case which contains the works of De Musset, or on the carved shelf which is to carry bronzes of Barye; or, again, introduce them in the frame chiselled by the hand of Feuchères, on the wall, beside water-colours by Delacroix: for their lightness and grace, they deserved to be called the younger sisters of this contemporaneous family. M. Solon has already met with thorough appreciation in that little circle of persons of taste, whose sympathy makes up for the noisy applause commanded by mediocrity. If only some illustrious amateur would lend his assistance to the matter, his works would, even to-morrow, be sought for with greater care than are those old rarities of vulgar form, whose sole merit is their antiquity, and which take the first place in the curiosity shops.

The manufactory of Sèvres, which we now hope to see occupying a wider artistic sphere, is undoubtedly the richest in painters, sculptors, modellers, and chemists, that the world possesses.

We are precluded from entering deeply into the more curious and minute of its details. We give here a summary sketch of the series of manipulation through which the kaolin passes after it has been taken in its primitive condition at St. Yrieux, near Limoges, and mixed



THE MODERN PSYCHE.

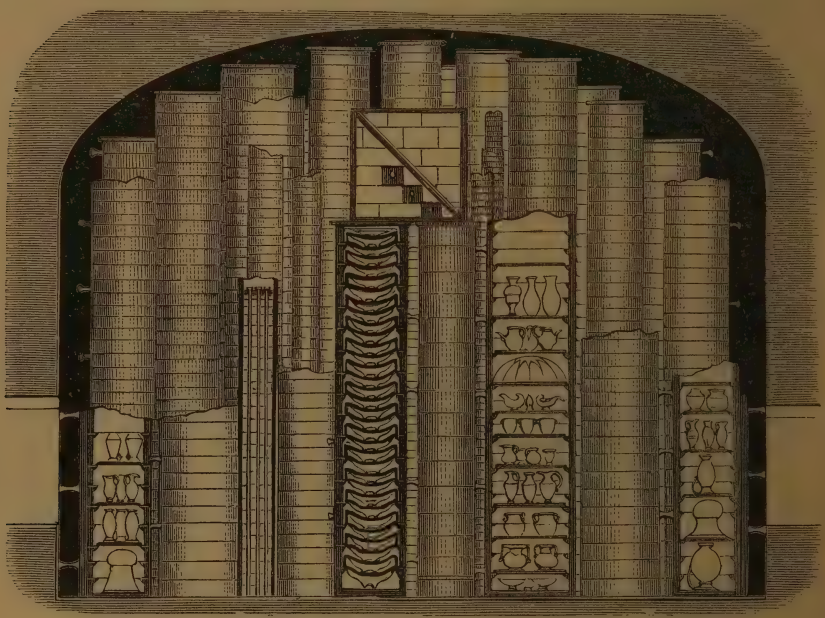
(Plaque enamelled upon Porcelain, of Céladon Sèvres, by Mons. Solon-Milès.)

with chalk from Bougival. It arrives in tubs, and is thrown into large coppers full of water; the actual kaolin then detaches itself; when separate and solid it forms a white powder, which requires no other trituration; this is the foundation of the paste; at the bottom of the copper there is a deposit of a sort of felspathic sand, which, subsequently pounded in a mill, and assisted in the baking by the carbonate of lime, or chalk, gives the requisite glaze and its transparency. These three elements, mixed and kneaded with the utmost care, constitute the paste for the throwers to handle, either on a species of lathe, such as that which M. Edmond Morin went to Sèvres expressly to sketch for us from the original, or by the casting process, for pieces of extreme thinness; that is, by pouring the paste, when in a liquid state, into a mould of a porous kind of wood. The piece, which now possesses all its constitutive elements of material, has only to be trimmed and finished; it then goes through the first baking, then it is dipped, either plain white or decorated, into the glaze, a liquid enamel which is a mixture of felspath and quartz; the pulverized portion, which quickly adheres to the prepared paste, is termed the "covering." The "encasing," or the process by which the pieces are protected from the direct action of the fire, is carried out by means of small cases or seggars, of which Palissy has already spoken, and of which the accompanying drawing gives a perfect idea.

The placing into the kiln is a practical operation of the most delicate sort; for from that moment the fire is the all-powerful and sole agent; and whatever the secrets with which a hundred years of experience have endowed the bakers, whatever the precautions with which they are now armed, nothing can forestall the cruel and irremediable caprices to which this process is subject. When these cases are duly piled and disposed in their allotted place, those containing the more delicate pieces being placed in the medium heat, the door of the furnace is bricked up. The furnace is lighted; pieces of birch wood are thrown in, due care being taken gradually to increase the size and thickness of them, and the baking, occasionally subjected to an enormously high temperature, lasts from thirty to forty hours. It is possible, to some extent, at certain stages of the process, to overlook the incandescent centre of the oven, by means of long tubes, which reach it by passing through the thick brick walls, closed with a piece

of glass of great thickness. Coal will, in all probability, be used for the ovens of the new manufactory. It is everywhere found serviceable and economical. The first attempts to substitute coal for wood were made at Lille, in 1784.

The extracting from the furnace, which also requires great care and delicacy of handling, even after a cooling of not less than eight days, is followed by a period of great anxiety, for it is only at this moment that the peace is signed with those demons of caprice and whimsical



FURNACE OF GREAT HEAT, DURING THE ENCASING PROCESS.
(Manufactory of Sèvres.)

perverseness presiding over these tedious manipulations. Only a few degrees more or less of caloric intensity at this or that moment in the baking—influencing, as it does, a whole furnacefull—will represent thirty or forty thousand francs, of material and workmanship, transferred into a mass of useless rubbish!

None but a limited number of colours can be subjected to this high degree of heat, such as chrome-green, and indigo-blue, which

have but little depth, and are far removed from the dazzling brightness of Oriental blue. Other colours would become volatile and disappear, without leaving behind any visible mark except one of, more or less, dirt or smudginess. These after-colours (technically termed "*moufle*"), the number of which is scarcely limited or defined, are applied to the surface of the pieces, before, during, or even after the glazing. They undergo the baking process conditionally —some more and some less—that is to say, they are laid on in successive tones, according as they require more or less baking.

We will here indicate to our readers two methods of thoroughly carrying out the study of which we have only here mentioned the principal features; the first is to go, on a Thursday, and visit the factory of Sèvres; they will find artists and workmen unexceptionally obliging. The second is attentively to read the work of M. Turgan on Sèvres, in that beautiful and excellent book called "The Great Manufactories of France." In order to demonstrate how greatly this picture of French industry in the nineteenth century facilitates the study of science, we have quoted the following page from it concerning the "impressions on porcelain"—a process, unfortunately, more democratic than artistic.

"It was at Liverpool, in the manufactory of Messrs. Sadler and Green, in 1751, that the process of transferring engravings on pottery and porcelain was first attempted. In 1775, M. Bertevin, then employed at the Hôtel des Invalides, suggested it to M. Parent, director of Sèvres, who instructed him to print a series of sketches of antique cameos, which were employed to ornament the borders of the service made for Catherine of Russia. This process was improved upon, and brought to perfection, especially in England, for the fabrication of those beautiful pieces of opaque porcelain, called *cailloutages*, which are often masterpieces of execution, and marvels of cheapness. MM. Neppel, Paillard, Saint-Amand, Honoré, and Decaen, greatly improved upon the scheme of making impressions on porcelain in France, by applying to it the process of etching, lithography, wood-engraving, and typography. One can easily apprehend the difficulty of printing on a surface so slippery as that of porcelain—rigid, sinuous, and almost always uneven. First of all, the engraving is made of different degrees of depth, so as to assist the application of variable thicknesses of colour, and then, as the colouring powders used very soon wear down

the plates, these are made of steel, which resist longer, and more successfully, than copper. Next is prepared a glutinous kind of oil, to which is added the colour to be used, mixed with a certain quantity of smoke-black, which disappears in the baking; after thus loading the plate, it is printed on a very thin sheet of paper, devoid of gum, and slightly damped; when the painting is transferred to the paper, the latter is laid on water, and when it is sufficiently wetted it is applied to the porcelain, to the surface of which the colours adhere; then the paper is lifted off, and the pattern remains fixed, especially if care has been taken to press the paper firmly down, to effect a deeper impression. At Sèvres this process is seldom used except for gold lines and ornaments, monograms, ciphers, and coats of arms."

Sèvres is, and we hope will continue to be, one of the vestiges of those manufactories of State whose produce, by their very perfection, and apart from any consideration as to the remuneration it brings, should brave all competition. The only combat worthy of it is one for the highest perfection of beauty. The supremacy of France in the luxurious arts, acknowledged and proclaimed in those great Olympic Games, which in our modern language we call universal exhibitions, the business of which is to discriminate, is chiefly represented by the manufactories of Sèvres and the Gobelins. The vases, and even the whole services of Sèvres, should only command a place in the possessions of the more opulent of the century, or serve as rewards offered by the nation to signal merit. So, after the yearly exhibition in 1850, M. Charles Blanc, director of the fine arts, did well to bestow, as prizes to the artists, specimens of it, instead of the customary medals.

We will now desist from following, either in the workshops at Paris, Limoges, England, or Russia, the history, either past or present, of a substance which, standing almost alone among the more recent discoveries of humanity, has solved the difficulty of combining the useful with the agreeable and ornamental. For a whole century France held it as its own exclusively, without rivalry. We must not deny her that conquest. In a few weeks from the present time, the manufactory of Sèvres, originally built under the direction of an amiable and intelligent woman, will leave its present old and respectable roof, the walls of which are trembling with age, to enter a modern palace. May it take advantage of this step to commune with its conscience

and examine itself, with a view to further development and improvement!

Far from rejecting the history of the times which made its glory, let it again peruse its pages and study the spirit which moved it. Thus will it perceive that decorative arts, Ceramic or others, cannot be independent of the vast tide of progress which carries a whole society along with it, and that, on the contrary, it is expedient, even necessary, to study the necessities and tastes of that society, in order to keep up any equality with its strides in advance. Let us hope that it will educate its children on a new principle, and so lay the foundation in France of a school that may successfully compete with and equal the Ceramists of the East, in the production of really original work.

GLASS.

TABLE GLASS—WINDOW GLASS.

The invention of glass, by accident, in Phœnicia—The art of glass-making of the highest antiquity—Gallo-Roman glass—Arabic lamps—Persian bottles—The glass of Murano—Method of making mosaic and filigreed vases—Beads—German Wiederkoms—Hydrofluoric acid; its present and future results—Benvenuto Cellini attributes the formation of precious stones to the influence of the moon—The *Art of Glass*, by Neri—Discovery of crystal or flint glass—The alchemists of the eighteenth century mistook it for congealed water—Baccarat—What constitutes crystal glass—History of a decanter—Modern glass making.

TABLE GLASS.

PLINY, the naturalist, recounts, in very picturesque terms, the history of the invention of glass; but it is somewhat improbable. If so singular a prodigy owes its discovery to chance, it must have needed a much higher temperature than that of which Pliny speaks to effect it. But let us see. A quotation from the translation by Antoyne du Pinet, Lord of Noroy, will grace our narrative with the language of the first years of the seventeenth century, and give it youth:—

"In Phœnicia, a country bounding Judea, there is a certain lake, which is at the foot of Mount Carmel, whence rises the river of Belus, and this river joins the sea near Acre; it is about five miles in circumference.

"The waters of this river are very stagnant, and unwholesome for drinking, muddy, and very deep, so that one can never see the mud except when the high tide of the sea throws some of it up on the banks. Then one sees a sort of slimy mud, which is smooth and shiny, as if polished by the waves; it is supposed that the decomposition of salt water condenses this mud, which previously was of no use whatever. The beach where this process occurs is scarcely half a mile in length; nevertheless, from the beginning of time a sufficient quantity has been gathered there to supply nearly the whole of the universe. And as to the invention of glass, it is supposed to have been discovered by some traders in nitre, who, having come to take a little of the earth of this shore, wished to cook their dinners there; but, as they could find neither stones nor pebbles on which to

support their pot, they thought of substituting pieces of the nitre, which, with sand, they came in search of. But having set fire to their fuel, and the nitre having attained a very high temperature, they suddenly perceived a liquid matter issuing from under it, and making its way through the gravel in great streaks; it is believed that this first suggested the making of glass."

And in truth glass is the result of the fusion of a kind of sand that is to be found in many places, and of which are specially composed the beautiful paths of white sandstone in the forest of Fontainebleau.

Pliny goes on to add the following curious details respecting the glass of his time:—

". . . . . The glass foundries are heated with wood like those where they melt bronze. The result of the first fusion is almost black. The glass is baked again in another oven, where it is given any colour desired. The glass-makers of Sidon, whence came in former times all the beautiful glass that we now possess (Pliny wrote this somewhere about the year of our Lord 70), made blown glass, or else they polished it with the lathe, making it flat or in relief, as they would have worked on gold or silver. The invention of mirrors was discovered there. Thus it is that glass was manipulated in former days. Now, glass is made in Italy from a sort of sand which is found on the borders of the river Volturno; it is comparatively soft, and easily ground with a mill, and reduced to powder. This is in use all over the world, but more especially in Gaul and in Spain."

The Egyptians were familiar with this art in all its details, which is perhaps of as great antiquity as that of enamelled clay. They understood how to melt, colour, and carve it. The Greeks also used it, and made many a precious moulded medallion. But the most numerous monuments which have descended to us—preserved, no doubt, by the interest attached to their very brittle nature—are Roman. Some charming specimens are to be seen among the glasses of the Campana collection, and several collections of amateurs of refined taste possess, either entire, or mended, cups of quaint style, vases of sometimes considerable dimensions, and little familiar objects, such as long-tailed birds, enamelled flowers, &c. &c. The Portland vase, of the British Museum, which was broken by a madman, and very cleverly put together again, is a marvellous example of style and

composition. It was found in the neighbourhood of Rome, in the middle of the sixteenth century, in a marble sarcophagus, which is said to have been that of Alexander Severus; it is of a rich blue ground, carved like a cameo in white relief.

It is not an uncommon thing to see two plaques of glass placed one upon the other, between which is inserted very thin gold leaf; on this is etched, by means of a very fine point, representations of Christ, figures of saints, or inscriptions; these are called "*graffiti*," and they remind one both of mosaics and cloisonné enamels. The eyes of certain busts and statues, when they were not made of gold or silver, were of coloured glass; at least, the eyeball always was of black glass, sometimes inserted into white ivory. At one period statues were entirely made of a black glass, called obsidian, which seems to have corresponded with our jet.

The art of working glass was so thoroughly well understood at Rome, that at one time it was in full competition with the gold and silver utensils, for two of which Nero paid six thousand sesterces; they were bowls of only small size. These two pieces, unless I am greatly mistaken, would, if placed at the Hôtel Drouôt, with a certificate testifying to their authenticity, be more highly esteemed than specimens of Oiron pottery!

Pliny speaks, too, of the Gaulish glass-workers, and true it is that scarcely any Celtic tomb is opened without producing a necklace of glass beads. The Gallo-Roman cemeteries contain, almost without a single exception, urns and vases full of ashes, cups, and lachrymatories, which not only contained the tears of the survivors, but, more especially, the particular essences and perfumes which the dead one had preferred when alive. They are for the most part brightly iridised, displaying all the colours of the rainbow with dazzling intensity—red, orange, metallic-green, white, and pink, shining out, in prismatic colours, like the winged shield of an Egyptian beetle, or the polished interior of a pearl oyster-shell. This peculiar irisation, which the Hispano-Moorish and Italian potters sought to imitate in their majolica with the aid of metallic lustres, is caused by a decomposition of the outer surface, which, however, was not premeditated by the glass-workers.

In France, more especially in Poitou, some glass vases have been found of singular beauty, and ornamented with figures in relief. It

has been thought that they were originally manufactured in that neighbourhood; for later on, in the Middle Ages, during the Renaissance, large furnaces were found there which seemed not to have ceased burning. The pieces collected are, in general, like those found in Italy, Savoy, Autun, England, or Germany; they were made from models which were then greatly in fashion, and must have been destined for daily use. On the base of some of these vases we see displayed representations of the combats of gladiators, athletic sports, and chariot-races; they must therefore have celebrated the automédon feats of celebrated wrestlers. These pieces of glass have reached us uninjured. Will a single one of our illustrated journals still exist eighteen hundred years hence? and will our libraries be found to be as faithful as these ancient cemeteries?

We will return, when speaking of stained-glass windows, to that vexed question of modern times—the use of window-panes among the Romans; let us now pursue our history of glass, though not in Italy —where, however, it did not founder in the catalogue of barbaric invasions, and reappeared with all its splendour towards the twelfth century—but in the East.

The secrets of these workmen of Sidon, whose adroitness had so charmed the antique world, were probably known in Asia Minor, in Arabia, in India, and especially in Egypt. M. H. Lavoix, a man of much erudition, thoroughly well acquainted with Arabic art, has published some interesting notes respecting these lamps, in the form of broad-margined vases, which M. Charles Schefer had lent to the "Exposition Rétrospective de l'Union Centrale." "These lamps," he says, "are swinging in hundreds, suspended to the ceiling by means of long silken cords, in the mosques at Cairo and Damascus. These cords, which are passed through slender loops upon the sides of the vase, meet above it like the angles of a polyhedron, and from the summit is suspended an ostrich egg, whence depends a smaller lamp descending to the interior of the vase. The light shines through the clear glass, and renders plainly discernible, either the letters of the legend upon it, or the ground upon which they are written, which is generally of coloured enamel." They nearly always bear the name and title of the sultans and emirs who bestowed them for the decoration of the temple of Allah. Servility having in that language only one form of expression, the formula is always the same: "Honour

to our master, the victorious Sultan! Allah make his reign eternal!" The greater number of the lamps which M. H. Lavoix particularly studied, belonged to the dynasty of the Mameluke princes, and especially to the reign of Mohamed-el-Naser, who reigned over Egypt and Syria for many years. They, therefore, date from the thirteenth century.

In the "Dream of Polyphile," that romance of the latter years of the fifteenth century, to which we have already referred in noticing

A PERSIAN BOTTLE AND LAMP, FROM AN ARAB MOSQUE.
(In M. Schefer's collection.)

Bernard Palissy's grottos, and which passes in review, under imaginary forms, all the arts of that period, such lamps as these are said to dispense their capricious light. "Owing to the diversity of precious stones wherewith these lamps were set, the temple was filled with a tremulous reflection of such brilliant and cheerful colours, that the sun itself after a shower could not produce a brighter rainbow." Our century, however, more inimical to the bright colours of fairyland,

contents itself with ground or opaque glass for its lamps, a sombre light, well adapted to the dreamy figures which pass through ivory-handled doors in silence.

Among the archæological exhibitions which, in 1860, gathered together at Vienna the riches of the churches, and the treasures collected by amateurs, in the Austrian empire, there were two antique Persian vases of glass, gilt and enamelled. An inventory of the treasures of St. Stephen, at Vienna, in 1373, designates them as "duæ amphoræ ex Damasco." They were originally brought from the Holy Land. The first is a bottle, on the neck of which are two small handles; it is decorated with interlaced zones, alternated with a groundwork of little rosettes of gold, edged with red, and blue enamel. The other, which is still more singular, had a frieze composed of little draped figures, four separate medallions, and a cypress tree, which, for Zoroaster and his disciples, was an emblem of the soul's flight into heaven.

These are among the most authentic and the most precious specimens of Oriental glass which have been preserved uninjured until our day, and even in the fourteenth century they were considered worthy of a place in the Treasury.

The Persians, especially after they had become Mohammedans, were always willing to reproduce on the sides of their bottles and cups fragments of drinking songs and couplets, written in cursive characters, which are in themselves elegant decorations. Many a time the Shahs officially sanctioned the use of wine, and Chardin, the traveller, has described the spot in the Palace of the Kings, at Ispahan, which is called the "House of Wine:"—

"The entrance is narrow, and is hidden by a wall which is built about two steps in front of it, in order to hide what is being done inside. When within, you find on your left large wine stores, and on your right a spacious hall. In the centre of this hall is a large basin of water; the sides are of porphyry. The walls are covered with plaques of jasper, eight feet from the ground; and above these, up to the middle of the spiral ceiling, are thousands of little niches, of all sorts of patterns and devices, some containing vases or cups, and others bottles of every shape, form, and material—such as crystal, agate, carnelian, onyx, jasper, amber, coral, porcelain, precious stones, gold, silver, enamel, &c. &c.: all indiscriminately arranged,

and so placed along the walls, that they seem as if they were on the point of falling from their places. The offices and stores to the left of this magnificent room are filled with cases of wine, four feet high, and two feet wide. Most of the wine is contained either in flasks, which hold from fifteen to sixteen pints, or in long-necked bottles, of two or three pints. These bottles are of Venetian glass, variously ornamented, cut with the diamond, in gadroons, or network. As the best Asiatic wines are bright-coloured, they are preferred in bottles. These are corked with sealing-wax, over which is a bit of scarlet silk; the seal, which is stamped upon a silken thread, is generally that of the governor of the place, for some of these wines are from Georgia, some from Caramania, and others from Shiraz."

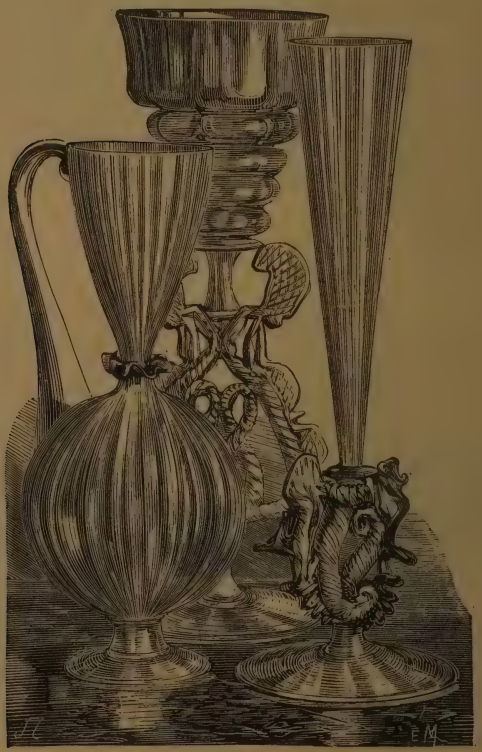
In writing that these bottles are made of Venetian glass, Chardin is evidently in error. Venice, on the contrary, borrowed the idea of these quaint and charming forms, which she has multiplied with so much taste and ingenuity, from the East. That bottle with so elegant a neck, which M. J. Labarte has reproduced in his "Histoire des Arts Industriels," and which, after being bought for nearly 5500 francs at the Soltykoff sale, is now in the possession of M. Gustave de Rothschild, is in all probability of Byzantine origin.

Let us here remark, in passing, that we find in its medallions that mysterious flower with three petals—one upright, and the two others drooping—which first gave to our ancestors the idea of the fleur-de-lis; which M. Adalbert de Beaumont found on the most ancient monuments of Asia, and which is among the most insoluble problems of heraldic science.

When hunted by barbarians, towards the fifth century, the Venetian population sought tranquillity in the retirement of the Lagoons. There they carried on the fabrication of glass, which did not take up much space, and which they had practised for long centuries previously. No doubt these glass-workers had been initiated in the secrets of the art by the Phœnicians and Egyptians, themselves so clever and artistic in working enamel, if we may be allowed for an instant to apply this term to glass when in a melting state, not adhering to any metal. The mosaic glass, or what was afterwards called the "*mille fiori*," is nothing more than enamels which have been stretched when in a fusible condition, and then put together again in a given order. Mosaics themselves are but a different

application of the same idea; instead of melting together small tubes, or little balls of coloured glass, these were introduced into a plastic sort of putty, spread upon the ground or on a wall.

In the middle of the thirteenth century the glass-makers of the Rialto, molested by the police regulations, which, for the prevention of incendiary accidents, compelled them to establish their furnaces at a



SPECIMENS OF MURANO GLASS.

respectable distance from the habitations of men, finally settled down in the Island of Murano. And does there not appear to exist a sort of affinity between the inhabitants of these districts—surrounded by water—and these thousands of transparent objects, clear as water, and shining like a sun-illumined wave? None of our Western decorative arts have attained so unique a development, and none have so quickly

caused the source to be forgotten whence they have taken their models; nor was a charmed world ever governed with so brittle a sceptre. Was it not, therefore, wise of the Venetian senate to confer, even as early as the eighteenth century, the title of nobility on artisans who had shown themselves to be such valuable and such inventive artists?

A chaplain of Louis XIII., Réne François, a writer of great enthusiasm and refinement of language, in his "Essai des Merveilles de la Nature et des plus nobles Artifices," pretends to believe that glass is in fact congealed water, and exclaims:—"Who sought out from the bosom of sand and gravel this fragile and delicate metal, created both for the eye and the lips—this beautiful treasure which causes the wine to laugh when it finds itself enclosed in the mysterious bosom of its mortal enemy, water, fashioned into cups, and into a hundred thousand other shapes and figures? Murano of Venice may well thus play with thirst, and, by filling Europe with thousands and thousands of pretty courtesies in glass and crystal, force people to drink because they possess them; they drink a ship or a gondola full of wine! they swallow a pyramid of hypocras, a belfry, a tub, a bird, a whale, a lion—in short, every sort of animal, potable or otherwise! The wine itself is quite surprised to find that it has so many and such different identities, so many colours, for in yellow glass claret becomes as gold, and in a red glass white wine becomes scarlet! Is it not fine to see scarlet, gold, white, and azure, swallowed down at one draught?"

There is nothing exaggerated in the word-painting of this graphic page. The imagination of the Murano glass-workers has attempted every form; their chemists furnished them with the most durable as well as the finest colours; the Mediterranean-blue and the milky-white, the veined sea-green, or powdered gold in dots, and the tender hue of the pink hortensia. Long before the time of the Caffagiolo and Urbino potters, they painted in the medallions of a goblet the likeness of two affianced lovers, and on one of these memorials of tender recollections I read the words, *Amor vol Fè* (Love exacts Fidelity).*

* This beautiful cup, formerly in the Slade collection, is now to be found, with all the other rich treasures it contained, in the British Museum. The late Mr. Felix Slade not only bequeathed his collections of glass and rare engravings to this National Repository, but invested an annual sum for the purchase of additional specimens; and, moreover, founded three professorships for the study of Art in the Universities of Oxford, Cambridge, and London.—Ed.

A legend, as quaint and fantastic as the scene of a masked ballet, has transmitted to us the name of one of these noble artisans. The glasses and vases of Angelo Beroviero, who established himself at Murano in the earlier years of the fifteenth century, at the sign of the "Angel," were renowned for their brilliancy and grace. He was the disciple of a clever chemist named Don Paolo Godi de Pergola, whose methods he had improved upon, so that he could paint and stain glass with every imaginable colour. He wrote the secrets of these in a book, which he kept entirely to himself, intending them to be inherited by his successors, thus ensuring the fortune of the factory he had founded. Unfortunately he had a daughter, who was pretty, and only too susceptible. A young workman of her father's, whose real name was Giorgio, but who, no doubt for his quickness of wit and cleverness, but chiefly in irony, for he was lame, was called "Il Ballerino," paid pious court so successfully, that one fine morning he absconded, taking with him not only the fair Marietta, but also the valued register of secrets. . . . . Which was best to lose, one's daughter, or one's secret treasure? A glass manufacturer might well hesitate! . . . but the balance went in favour of the latter. Il Ballerino returned the book, obtained the hand of Marietta with a good marriage portion, and not only so, but he set up these furnaces on his own account, heading the well-known house of the Ballerini.

A pilgrim who visited Venice in the first months of the year 1484, tells an anecdote which exactly illustrates the heaviness of the German blood at the end of the Middle Ages. When the Emperor Frederick III. was in Venice, the Doge and the Senate showed him a beautiful glass vase. The Emperor praised its beauty, extolled the rare merit of those who had made it, and then, as if by accident, he let it fall from his hand, thus breaking it into a thousand pieces. Then feigning great regret, he exclaimed: "Alas! what have I done?" He then picked up the fragments, adding, "See how superior are vases of gold and silver to these, for they are of value even when in mere fragments." The Venetians understood him, and on his departure his practical majesty was presented with vases of gold and silver!

What a mercenary calculation for a shepherd of men! If the hammer and chisel of the goldsmith had not ennobled these objects of gold and silver, they would have been of exactly the same value as the ingot when it issued from the mine. On the other hand, the vase

which his Majesty had so carelessly dropped from his brutal hands may have been one of the family of those inestimable objects which, in the Italian campaigns, Bonaparte exacted as seals of treaty. Artists were not of Frederick's opinion. In 1656 the Insolvent Court of the town of Amsterdam registered the inventory of all the possessions of Rembrandt, who was ruined by a settlement of family lawsuits; it comprised a magnificent collection of pictures and statues from the hands of masters, the costumes and war implements of various savage tribes, antique busts, minerals, and shells, drawings and engravings, moulds, and among the various pieces of Chinese and Japanese porcelain, we read of "a few rare vases and pieces of Venetian glass."

The discovery, or rather the bringing to perfection of crystal glass mirrors, which were called to replace those of polished steel, dates from the fourteenth century, and is due, it is believed, to Germany. It is purely an industrial matter, and one which need very little engage our imagination. The Venetians, however, have greatly ornamented these plain surfaces by stamping upon the edges of them mythological figures, which stand out from a framework of flowers or grotesque designs. They also made some very original frames by inserting ebony into steel, or inlaying copper with bits of glass; sometimes, again, entirely of bands of glass placed in gradation and catching the light at different angles.

These latter years have brought forth some of those paper-weights in imitation of the *mille fiore*, which suggest the effect of a kaleidoscope when placed upon a handful of flowers or coloured pieces of paper. These modern pieces are as well executed, from a practical point of view, as were those of the Renaissance; but the form of them is provokingly simple and inadequate to the occasion. The process in itself is easy; it is composed of a number of little sticks of glass, which are put together like the various threads of which a thick rope is made; these are put in the furnace to bake, and then they are twisted in a particular way when in a pliable condition. But that which has *not* been transmitted to us, is the ingenuity of the worker in glass, who managed to intertwist and mix them in a spiral form in the bottom of a bowl, like the threads of a spider's web, or rise in the stem of glass like a harp-string tightened by the rays of the sun, radiating from the central point like those lines of purple and gold which, during the scenes of a phantasmagoria,

light up the black curtain, and seem to get larger and larger as they roll on themselves. It is here as with those popular ballads, at once merry and sad, which, though correctly printed, do not, unless heard, convey the idea of the dialect on which all their movement and character depend.

But we must not imagine that all the glass that has descended to us was made at Murano. France, and especially Lorraine, has produced much that is charming. Germany gave it a heavier character; but one which is both characteristic and eminently heraldic. There is between these styles as great a difference as exists between a Florentine dagger and a ponderous Swiss two-handed sword.

These are the liveliest reminiscences that ancient Germany has left us of her festivities. These goblets, which contained more than a quart of beer, those Vidrecomes for drinking Rhine wine, escutcheoned and enamelled with all the colours in heraldry, had a look of ponderous grandeur when placed on a table. They are ornamented with figures of Swiss soldiers triumphantly marching, with redundant gestures, their fists resting on their hips, their chests puffed forward, and with strained legs, while their noses and mouths are deeply buried in their fan-shaped beards, haughty and rough, under the waving standard of their cantons. Here we see the Austrian eagle tightly grasping in its claws the sword and the Catholic globe, stretching its twofold head towards invisible horizons. There a young couple is treading the "Liebens Thal," or "Valley of Love," together. Sometimes it is a cordial exclamation of hospitality, which warns the invited guests against the allurements of wine and beer. In the closet of the "Château de la Favorite," near Baden, drinking vases of the Princess Sybille are still to be seen; each one bears the arms and motto of its master, engraved by the wheel, the workmanship of which is as delicate and fine as lace worked by fairies. Sometimes the escutcheon is stamped with a crest, of which the swelling drapery droops like the virgin vine on the sides of a dismantled fort.

Murano, which is no longer anything but a sad little island, still continues to make chandeliers ornamented with flowers, fruits, and other devices in coloured glass, which dealers still attempt to pass for pieces of the eighteenth century.

The process by which those beads and necklaces of coloured glass—such as, without intermission, have charmed the African people ever

GERMAN GLASS DRINKING VESSELS.

(Museum of the Hôtel de Cluny.)

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since the fifteenth century, just as diamonds, pearls, and precious stones are the dream of European women—are made, is singular enough. The disposition of the furnaces and melting-pots is the same as with us; the first ingredients are potash, soda, and a species of silicious sand, which is to be found on the coast nearest to Venice. As soon as the substance coloured by the ordinary mineral oxides is melted, the glass-worker plunges the end of his stick into the melting-pot, which stick is a tube of iron five feet long, and the fundamental instrument of the art. By means of this iron tube he blows a large aperture in the glutinous mass. Then another workman, who has already gone through this operation, approaches, and applies his rod end to end with the other, which adheres to it; then they both proceed to run in opposite directions. By this process they can spin a glass tube no thicker than a hair, and nearly a hundred feet in length. Then this tube is broken into lengths of two feet, and handed to the next workman, who cuts the tube, which is technically called, in French, "a canon," into small pieces as broad as they are long, and throws them into a basket which is full of infusible clay and charcoal dust; these fill the centre hole, and prevent its becoming stopped, when the whole is submitted to another baking in order to round off the angles. This second baking is carried on in an iron cylinder, which is kept constantly in motion, to prevent the beads from adhering to one another. After this, nothing remains but the sorting, which is effected by passing them through sieves of a given size. Certain other beads, stronger and more elegant than these, are obtained from the enameller's lamp. The faceted, or cut-glass beads, are made at Reichenberg, in Bohemia.

As we have already said, the art of wheel-engraving on the surface of glass was carried very far in France. These goblets, generally of a simple form, and which are ornamented with monograms of initial letters, repeated back to back and interlaced, in the midst of an escutcheon, are well known. The most delicate of these were engraved in the reign of Louis XVI. In our days, the discovery of an exceedingly powerful chemical agent has rendered popular an ornamentation very similar to it in its character; and that, strange to say (for it is a rare privilege among modern inventions), without in any degree depriving it of its typical characteristic: that agent is hydrofluoric acid.

Up to this time it is, without exception, the only agent known that will eat into glass, or rather that will instantaneously decompose it. It seems to attack it with a kind of vindictive rage, impatiently refusing to be contained in the glass flagon into which it is poured; only metal or gutta percha have power to dominate it, and restore it to reason; it is like a madman, who cannot for a moment be let loose without a straight waistcoat. The chemist simply gives this explanation, that it takes violent hold of the silicious acid in glass, and that the mutual decomposition of both combines to become fluoric of silicium. The recognition of this chemical fact took place in the last years of the eighteenth century, and the "Encyclopædia" indicates that the means of using it to engrave the surface of glass is the same as that which is employed to engrave a copper or steel plate by means of nitric acid.

In 1810, Gay-Lussac and Thénard had introduced the method—always an exceedingly dangerous one—of making the preparation; and in 1854, L. Kessler published an adaptation of it, which was immediately seized upon by the glass painters and glass manufacturers of St. Louis and of Baccarat.

It is with the help of a rather complicated process of tracing or stamping off, but one which is certain of a good result, that the printing of a cipher, or any other given ornament, on the surface of glass or of crystal, single or double, on porcelain, on earthenware, or on hard stones, is effected. At two exhibitions of the "Union Centrale," we have seen, in the glass cabinets of M. Bitterlin, ring-seals, carnelian plates for the covers of boxes, glasses for champagne, or for the shelves of a drawing-room, with the arms of their owner raised upon them in relief, either in white or in colour, in gold, or even in silver, delineated with a truly artistic neatness, insomuch as it was neither stiff nor monotonous. Wherever the acid comes in contact with the glass, it scoops out, on the edges and at the bottom, a kind of hollow pathway, which is formed of tiny cells, almost microscopically small, but which, nevertheless, do not present so smooth a surface as that made by the chisel. Between these modern specimens of engraving and the ancient ones, there is the same difference of aspect as that which exists between aquafortis engraving and chiselling. The French artists have a very expressive technical term for this difference; they say that the aquafortis process "looks more greasy,"—"*C'est plus gras.*"

It is with the help of this acid that, at a trifling expense, the polish is taken off the lamp-shades and globes now in use; that is, the surface of the glass becomes rough, and it goes among us by the name of ground-glass: this creates a much more subdued and harmonious light. It is also through the agency of this acid—which has no other drawback than severely to burn the hands of the workmen who use it, if by any chance there should happen to be a crevice, however small, in the indiarubber gloves which they wear for protection—that are made the large glass reflectors, which surround the centre chandelier in the more modern theatres in Paris, such as the Gaieté, the Châtelet, and the Théâtre Lyrique.

In this we see a completely new art, and it only remains to use it judiciously, and not expect more from it than it will easily perform. It is spreading fast, and may be said to have forced its way into our houses. The old-fashioned ornamental window-panes, encased in all their ponderous and proportionately solid leaden frames, were never intended to be closely examined; their enamel, rendered semi-opaque by the heat of the fire, required that one should be at some yards' distance from them to appreciate lapidary splendour; and as to the window-glasses of smaller dimensions, painted in the style, for instance, of the Renaissance Swiss stained glass, they had the drawback of intercepting the light by the multiplicity of their detail, and, in any case, they should always be reserved for retired and sombre corners, such as a library or study window.

The scheme of engraving with hydrofluoric acid, on the contrary, admits of ornamenting large surfaces, while it proportionately varies on them the effect, either of glass of several different colours, or of a groundwork of dull or shining glass in white; or, again, of the reverse. It brings variety to those large pieces of plate-glass which are used for skylights, or to give a merely necessary amount of light on the ground-floor of an office or public staircase; it may break the bare and severe monotony of those handsome glass panels which serve to reflect the room, when placed at the end of it, thus doubling its length and size, by being artistically used instead of the wooden cornice or partition which, in ancient days, separated one room from the next; it may be brought to disperse the light discreetly in a lady's boudoir, reflecting it on certain objects and not on others; and in these modern days, when in large towns, and for the sake of space and comfort,

houses are divided into flats, with one large and general staircase, this process admits of the windows of the staircase and lobby, for instance, being so transformed and ornamented as to present the effect of blinds of the finest lace, which admit the necessary amount of light, only intercepting the indiscretion of curious outsiders. Nothing is easier, too, than to carry out the Venetian fashion we have already alluded to of decorating the frames of looking-glasses with balls of glass, which, when placed behind a silver or copper arm, extended and bearing a branch of lights, acted as reflectors.

But it was far from being the first attempt which succeeded in producing that artificial crystal, which, by its purity and the homogeneity of its particles, so closely resembles rock-crystal. At first an attempt was made to imitate, not exactly real diamonds, but every description of transparent stones. Pliny, on this subject, tells us of the spurious imitations of the Indian glass-makers; but their merit was somewhat less than ours, inasmuch as the ancients made use of rubies, emeralds, beryl, chalcedony, hyacinth, and sapphire, in an uncut state, so that the glass-worker had not, as they now have, to obtain flat and polished surfaces, without the slighest speck or flaw, at every conceivable angle.

The cabinet of antiquities at the Imperial Library contains an amazing instance of the great ability the Persians had in their imitation of precious stones, under the dynasty of the Sassanides, in the middle of the sixth century. The "Chosroès Cup" is composed of a sort of framework of solid glass, on which are three circular rows of eighteen medallions in rock-crystal and violet and green glass, which surround a medallion of the King in rock-crystal. The intention was evidently to imitate rock-crystal, garnets, and emeralds.

Benvenuto Cellini has devoted the whole first chapter of his "Traité d'Orfévrerie" to the nature of precious stones, real and false, the metals used in the mounting of them, of stone doublets, and the staining of diamonds. "It is not our intention," he continues, with that self-reliance for which he is often so amusing, "here to discourse upon the causes which produce precious stones, this question having been quite sufficiently treated by philosophers, such as Aristotle, Pliny, Albert the Great, Solin, Flimante, Isidore of Seville, and a number of other very learned men; it will therefore suffice us to observe that precious stones, like many other natural things which are produced under the influence

of the moon, are composed of four elements. Nature seems to have exerted herself to represent these four elements in their several colours, in the four finest stones, namely, the ruby, the sapphire, the emerald, and the diamond. Thus it is that the ruby represents the element fire; the heavenly blue of the sapphire, air; the joyous colour of the emerald suggests the grass-green earth; and the diamond, water—pure, clear, limpid, and transparent."

Then he goes on to speak of the carbuncle, "which shines in the night like a fire-fly," and of the pearl, "which is but the bone of a fish." He speaks too of the piece of tinsel, which is placed at the back of the setting to intensify the red of the ruby, or the green of the emerald, &c.; to change the tint of the diamond, together with recipes for its preparation. Let us, however, not lose sight of the fact that towards the year 1530, when he writes, the ruby was, at least temporarily, rarer than the diamond, and consequently dearer. Cellini styles false emeralds "adulterated stones."

But this chapter deals mostly with the mounting of jewellery, and Cellini does not dilate much upon imitation glass. On the other hand, a Florentine named Neri has, in his "Art of Glass," studied the matter under its most numerous aspects. He treats of it with so much enthusiasm that in the Preface his pen has all the volubility of the humbug's tongue in "L'Amour Médecin." "It is only with the help of glass that all these different kinds of vases are made, such as the gourds, the alembics, the recipients, the pelicans, the cornucopiæ, the serpents, the phials, the square glasses, bottles, and an infinite number of other articles which are daily invented to contain the chemical preparations of aleaiteric, arcanum, or quintessences, salts, sulphurs, vitriol, mercury, and various dies and decompositions for all metallic operations, without counting the preparations of aqua-fortis, so essential," &c. In this treatise, which on the whole is very important from a practical point of view, Neri indicates the method he adopted in order to endow glass with an aquamarine tint, with sky-blue, emerald-green, and turquoise-blue. And finally he gives a recipe for making what is commonly called crystal, that is to say, a species of glass far more homogeneous and more transparent than blown glass, and which is susceptible of being cut at all angles and in all devices, as neatly as one can cut rock-crystal.

In our day imitation has reached a degree of perfection that borders

on the miraculous. Our readers must have observed, even if they have never had the curiosity to look into the glass cases of jewellers' shops, the brilliant facsimiles of the Sancy, the Regent, and the Ko-hi-noor, they must have often seen attached to pretty little ears, or decorating some snowy neck, cut beads of all shapes, pear-shaped drops, &c., which are cut with the most admirable precision, and clear as the waters of a mountain stream. To crystal glass, again, is due one of the instruments which has created a perfect revolution in the modern scientific world, to which it has opened out an altogether new horizon, namely, the microscope.

Telescopic and magnifying glasses, too, have considerably increased the field of study with regard to astronomical hypotheses; but these are not the forms of it which we are now pursuing.

The dream of transforming water into crystal had crossed the mind of the alchemists of the eighteenth century, with as great a degree of persistence as that of the transmutation of metals. There were no experiments, however complicated, which were not attempted by these men of science, who themselves were, after all, the natural fathers of chemistry, the greatest of all modern sciences; nor were there any quaint titles which they did not bestow on the title-pages of their treatises, or any anecdotes too romantic for them to relate. I have taken the following from the "Sol sine Veste," or "L'Or Nud," a book of thirty experiments with a view to derive a purple colour from gold, together with a few conjectures on the destructibility of gold, and the method of arriving at the highest degree of perfection in the making of false rubies or red glass, by J. C. Orschall, Inspector of Mines to the Prince of Hesse. He recalls to his mind a singular experiment, which a friend had written to him from Hamburg, about a dozen years previously:—"A company of respectable people happened to be assembled at an inn; they were all intelligent, and fond of investigating curious questions. They were talking together, when a stranger who was present joined their party and entered into conversation with them. A minute after he asked for a glass of fresh spring water, and it was brought him. He then unbuttoned his coat, and opened the breast of his shirt; some of the company observed that he wore, next his skin, a kind of wide belt, to which were suspended several small purses; one of these he opened, and, drawing out of it the portion of a drug, he threw it into the water; then he disap-

peared, and none knew what had become of him; this caused them to wonder what was contained in the glass of water, and on looking they found it to be crystal, and so hard as to amaze all present. . . . As for me," adds the writer, "I do not doubt that *smoking spirit* can coagulate water." And then he devotes himself with redoubled ardour to his crucibles and his furnace.

We have said before that crystal, or, as the English call it, "flint-glass," has lent a very valuable assistance to the science of anatomy and that of astronomy, as well as to the coquette. It is with regard to the jewel which completes the beauty that a poet has said:

> "Quand il jette en dansant son bruit vif et moqueur,
> Ce monde rayonnant de métal et de pierre
> Me ravit en extase, et j'aime à la fureur
> Les choses où le son se mêle à la lumière."

Those fine crystals which nowadays compose the lustres and chandeliers which cover the table beneath with a thousand brilliant and moving lights, are generally brought from Baccarat, where the finest execution is to be met with at the same time as the most perfect process.

Lorraine has furnished us with glass almost from time immemorial; its immense forests furnished abundance of wood for fuel. Palissy seems to have been there, or, at least, to have passed through it, when he made his grand tour of France as an incipient glass painter. At the beginning of the seventeenth century the master glassmen of Nancy formed an important corporation, which had for its patron saint St. Luke, who is also the patron of painters.

Baccarat was founded in 1765, by M. de Montmorency Laval, Bishop of Metz. This establishment bravely withstood the social, or rather industrial, earthquake, which befell almost all industrial arts at the downfall of ancient society. In these modern times it is under the management of a director, who represents a very powerful company.

The glass, which is exclusively made there, is obtainable at a lower degree of temperature than blown glass; also the common basis of all glass, namely silex, instead of soda and lime, receives the addition of potash, but especially that of a particular substance called minium, or oxide of lead. Venetian and Bohemian glass contain none of this last substance. It is not known who was the first to discover crystal or flint-

glass; it is supposed to have originated in England towards the middle of the seventeenth century. In the first instance it was far from possessing that cold but absolute transparency which chiefly characterizes it; it was, on the contrary, somewhat black, which was owing perhaps to the use of coal fires. Even now, notwithstanding their enormous outlay, the crystal works of Baccarat use nothing for fuel but pine-wood, which is conveyed by the River Meurthe, in whole trains at a time during heavy rains and floods. The first furnace for the making of glass on a basis of lead was set up in France in 1784, in the same place as had sprung up, forty years previously, one of the first porcelain ovens—namely, at St. Cloud; the glass brought from thence were denominated "The Queen's Crystals."

The pre-eminence of the Baccarat productions is due to the excellence of the materials used; the minium is extracted from lead which comes direct from Spain; the potash, which is obtained by the combustion of the residues of refineries, is purchased in the north, and again carefully refined a second time; the sand comes from Champagne, in the neighbourhood of Epernay; and so on for the rest. Thus it is especially, too, with their colouring oxides; the oxide of manganese, which produces a series of shades of violet, lilac, and petunia tints; the oxide of cobalt, which produces the deep blue; the chrome, apple-green; uranium, yellow, gold, ruby, or rose; and copper, which, being itself more or less oxidized, becomes light blue, green, or a sort of crimson purple.

Nothing is more curious than the process by which the thousands of luxurious and useful articles are made which issue forth from Baccarat. Let us take, for instance, the making of a decanter; all other fabrications only differ from this one in the more or less time and trouble bestowed upon them. Let us begin by stating the fact, that the blowpipe of which we are about to speak, is the fundamental instrument in the art of the glass-worker. It consists of an iron tube, about four feet in length, and a little expanded at one end; with the help of this, in a plate-glass manufactory at Nemours, we have seen master glass-makers blow and draw out, when red-hot and in a semi-glutinous condition, cylinders no less than seven feet in length. One man, called in French the "gatherer," plunges his rod into a melting-pot, so as to extract from it, or "gather" (the word is charming) the necessary quantity of glass; this he takes and rolls

out on a sheet of cast iron, called the "marble;" then he passes his rod to another workman, called the "square-cutter" or "trimmer" (carreur), whose business consists in collecting and rounding the glass with the help of a wooden spoon, while an apprentice, who is placed behind him, blows gently into the rod. This forms the "paraison," or bubble of glass. By this time the glass has become cold, so it is warmed again at the mouth of the oven, and handed, thus prepared, to the "trimmer," whose business is to give the decanter its ultimate shape. Monsieur Turgan writes:—"In order to do this he blows into his rod, balancing it in the air while he attentively watches the movement of the glass, until the paraison attains the given size. When this is accomplished, a boy, who is seated near him to seize the right moment, is ready with an open mould of beech-wood, the opening of which is exactly the size and shape that the decanter is destined to assume. The blower then introduces his paraison into it, and, mounted on a little stool, he continues to blow into his tube, at the same time giving it a rapid rotatory motion. The air expands the "metal," pressing it against the sides of the mould, so that it takes its exact shape. The mould is then opened, and out comes the decanter, but the neck of it is still shapeless. The blower then returns to his place, rolls his rod for some moments on some bars of wood, technically termed, in French, "bardennes," and, by means of some wooden blades, he gives the finishing touch to the piece; a boy then presents himself, with an iron rod, called a "pointil," or *punt*, which is fixed by heat to the bottom of the decanter, so as firmly to adhere; then, by passing a pair of cold pincers at the extremity of the neck, he gives a sharp blow which severs the decanter neatly from the blowpipe. Meantime the boy, who has hold of the decanter at the end of his *punt*, carries it back to the furnace, in order to soften the neck. This done, he takes it to the head man, "chef de place," whose work it is to complete it; with the help of wooden and iron pincers he gives the desired turn and shape to the neck, shaving the edges with scissors, and rounding the mouth; if it be necessary, he adds cords or handles to it. After this the piece is carried in what is called the "rebaking arch" (arche à recuire). In this the pieces are put in great numbers, in cases of sheet-iron, which are placed at the end of a gallery one mètre in width and twenty in length; these cases are made to work slowly along, so as to take eight hours in going from

one end of the gallery to the other; thus they gradually get into a cooler atmosphere, the heat decreasing with the distance from the end, so that, by the time they reach the other extremity, the pieces are completely cold. Lastly, these are conveyed to the carving and cutting-room (taillerie), where a finishing touch is given to them by means of grinding wheels, which are turned at a great speed, and on which are thrown various powdered substances, each finer than the last; on the first wheel, which is of iron and simply cuts the facets, is thrown a composition of white sand-stone, which bestows itself drop by drop; the second wheel is of red sand-stone; the next is wood, covered with pumice-stone; and the last is of cork, powdered over with tin-putty.

The engraving of them, either by means of the hydrofluoric acid, or with the help of small wheels made of iron or copper wire, on which is sprinkled a certain quantity of emery, gives the concluding touch to these pieces, be they glasses, decanters, globes, chandeliers, flower-vases—in short, all glass for household use, or the thousand articles destined to satisfy the caprice which fashion has, of late years, taken under its protecting wing.

At Baccarat they can make everything. Nothing that the master glass-workers of former days produced can discourage the glass-workers of the present time. The materials are of a transparency and purity which have never as yet been equalled, or even approached. In our opinion, this scrupulous perfection is pushed a trifle too far. That implacable purity reminds us of the ice of those Norwegian lakes, on which Seraphitus and Seraphita are supposed mystically to skate; it were better if this diaphanous surface were relieved with a little yellow; this is what gives that character of harmony and semi-warmth to the Venetian and Bohemian glass. But we must admit that when placed on a white table-cloth, which looks like a field of snow, our table glass shines forth with a brilliancy of reflection which is unrivalled.

WINDOW GLASS—STAINED, PAINTED, AND PLAIN.

Restoration of window glass—Window glazing among the Romans—Tragic occurrence to a man of science—Glass windows in Europe in the Middle Ages, and during the Renaissance—Christian feeling and sentiment—Invention of stained windows for churches—Window glasses during the twelfth, thirteenth, fourteenth, fifteenth, and sixteenth centuries—Swiss window panes—The Romantic school reviving the use of window glass in France—King Louis Philippe orders some of various masters—The scientific theory of colour confirmed by observation—The mirrors of St. Gobain—Conclusion.

WINDOW GLASS.

GREAT MINUTENESS and precision have been bestowed, of late years, upon the history of stained glass windows, owing to the fact of its being of necessity intimately connected with that of the decoration of religious edifices; add to this that, to our modern taste, leaning as it does so entirely towards the exact restoration of antiquities, it would have been impossible to undertake the rebuilding and restoring of our glorious cathedrals of the Middle Ages without replacing their windows with glass corresponding in style and device with the period and character of the edifices themselves. For this it became necessary not only to request the manufacturers of glass to adopt and revive certain processes of fabrication which, whatever has been said to the contrary, were never entirely lost or forgotten; but it was found indispensable that they should be provided with models themselves, in the spirit of the times to which these monuments belonged. And, let us not be backward to state, that the French mind never showed itself more willing, or better able, to re-link the broken chains of past ages; never has it more rapidly re-conquered a territory that was supposed to be irrecoverably lost. Rather less than a quarter of a century ago, towards the year 1840, the noble secrets of colouring and working glass were regarded as utterly lost. Painters were summoned from England who knew but little more about the matter than ours did; at Sèvres, Monsieur Brongniart tried a series of new experiments . . . . but now, even in the most humble and modest village

church, we see waves of coloured light streaming forth in all the varied tints of the rainbow.

The Romans do not seem to have thought of obtaining large surfaces of coloured glass for window panes. The secret of the use they made of window glass, properly so called, that is, plain and uncoloured transparent glass for the admission of light, has been for a long time a vexed question, even among the most learned of learned men; and if they have settled it at last, the waste of time and ink has been prodigious. One Italian priest fell a victim to it. The unfortunate man had condensed in one huge octavo volume, with engraved atlas, Preface, Dedication, Notes, Analytic Tables, Index, &c., the study and pre-occupations of his whole life. He had warmly adopted the views of Samuel Petit, who, in his "Lexicon Antiquitatum Romanarum," admits only of sheets of talc in lieu of glass panes. Thus he entirely denied and refuted the truth of Philo the Jew's assertion, that, in an interview with Caligula, he heard the Emperor give the order to his architect "to stop up the apertures with glass." He foresaw his book triumphant! he already fancied himself member of all the academies in Europe, amid imaginary shouts of enthusiastic applause! But, alas! the very day on which his book appeared, and his presentation copies were posted in their various directions, and just when his publisher had effected the sale of two copies to foreigners of great scientific attainment who chanced to be on their way to or from Naples. . . . O rage and disappointment! on that very day the men employed in excavating the ruins of Herculaneum came upon window frames to which still adhered a piece of glass! This piece of glass was of a greenish tint, and thick, but still glass it was! . . . . What would you have the deceived *savant* do? Die of it? . . . . Die he really did.

It is, however, comparatively recently that window glass attained any degree of general circulation. For a long time it was rare, and at those periods when religious faith was warmest, it was reserved, either white or coloured, almost exclusively for the house of God. In the thirteenth century, in France, in England, and probably everywhere else, casements were filled merely with canvas, and a little later on with paper. We find in the accounts of Jean Avin, receiver-general of Auvergne (1413) :—"Item for the return of Madame la Duchesse de Berry, from Montpensier, whither she went to order certain casements to be made for the windows of the said castle, to be fitted

with oil-cloth in default of glass." . . . . In Scotland, until 1660, the palace of the King, at Edinburgh, had glass only to the windows of the upper story; on the ground-floor the windows were replaced by wooden shutters, which had to be thrown open in order to give light and air. Glance a moment at the other extremity of the road we are pursuing; in 1851 the English glass manufactories were producing, in the short space of a few weeks, and at the small price of fourpence per kilogramme, the 400,000 kilogrammes of window-panes which went to form the outer wall and roof of the Crystal Palace!

It is probable that the Romans made but a very limited use of glass for window panes. In those days houses were so little and so seldom occupied! Their whole life, from sunrise until sunset, was spent at the bath, in the fields at work, or on the public meeting places. In the decline of the Roman Empire the suppers were prolonged in order to pass the evening. During the more prosperous years of the Republic, on the other hand, the body was so hardened by warlike exercises, that it became insensible to the variations of temperature. Are we to suppose that in the Empire of Morocco, where Eugène Delacroix states that in his travels he everywhere met with the actual and living representation of the manners and customs of the ancients, the most luxurious sheik suffers from the chilliness of the night when asleep in his tent, and enveloped in his burnous cloak and a warm woollen blanket? To the habits formed by the Christian religion we must ascribe the development of that most modern sentiment, of home and home comforts.

It is not known precisely where the peculiar artistic glass work which, by its numerous and well-distributed colours, transforms a window into one large transparent ornament, was first employed. Was it on the borders of the Rhine, under Otto II., and towards the end of the tenth century; or only near the end of the eleventh? Or did it come from Italy, or from Byzantium, or from France? These are important questions from a critically historical point of view, but they have not as yet been satisfactorily answered. It is most probable that the French architects, both Norman and Gothic, who were endowed with so profoundly true a sentiment for perfect harmony, were tempted to fill in their windows with coloured glass for the sole purpose of carrying on the colouring of the arches and columns, the sides, and even the pavement of their churches. It was, as it were, an Oriental, and sub-

sequently a Greek and a Roman tradition, this painting, which, with the simplest use of the palette, converted a plain ceiling into a sky spangled with stars, and which seemed to cover walls with elaborate tapestry, and to inlay in the pavement mosaics realizing the highest dream of an ambitious architect.

The first window panes, however far back we may trace them, certainly consisted of glass coloured collectively by means of dies, and not painted on the surface and singly, as was done later on; these repeated boldly the relative transparency of mosaics, throwing into the churches the most intense, as well as the most transitory and moving, subdued light.

SPECIMENS OF GOTHIC GLASS.
(Primary style. Perpendicular and Flamboyant.)

The most ancient church windows known—although there is good reason to think this is an art essentially French—are in Bavaria, in the Abbey of Tegernsee; a certain Count Arnold had presented them at the end of the tenth century; they were painted by a monk named Wernher.

The monk Theophilus, who wrote probably at the end of the eleventh century, and of whom we shall further have occasion to speak in our chapter on Enamels, gives a recipe for "painting on glass," with the help of a brown enamel. This is a mode of procedure which it is important to note. The colouring tones of that time were red, blue, yellow, green, and lilac or purple.

In our opinion, the stained or painted glass of the thirteenth cen-

WINDOW IN THE CATHEDRAL OF ST. DENIS.

(From a design by M. F. de Lasteyrie.)

tury has attained the acme of perfection. It consists chiefly of simple medallions, representing quaint legends, scenes of austere sanctity, miracles, episodes in every-day life, graphically represented with the most candid and simple expressions; the principal outlines are almost always marked by that narrow line of lead, which serves to consolidate as well as to unite the parts; but this process, which would seem barbarous, in no way shocks the eye; one gets accustomed to that wide line which traces the outline, and the black shadow which runs through all the parts of the design seems to be a premeditated and indispensable ingredient of vigour. In the cathedral at Bourges there are, at the end of the apse, several specimens of window glass of the thirteenth century, which have descended to us in a state of almost perfect preservation; when, after spelling out with difficulty the legends in old characters and dialect which belong to them, one passes on, and then looks back, they appear like a marvellous vision of prismatic beauty, in which red and blue shine out and mix together, throwing out rays as of a waving flame. No words can adequately express their effect, at once so splendid and so subdued. No human work can inspire the soul with a holier and more religious awe. Our readers know the saying of Napoleon, when in the Cathedral of Chartres:—"An atheist can feel but ill at ease in this place."

The three rose windows on the portals of the transepts of Notre Dame de Paris take rank as the finest flowers of this mystic garden. The windows of the Sainte Chapelle at Paris, which was built by order of St. Louis in 1145, by Pierre de Montereau, have been preserved until our time, and such was the perfection of the materials used, that time has in no degree lessened their brilliancy. But man often proves himself to be a more destructive agent than either wind or rain. At the end of the Revolution, the Sainte Chapelle was appointed to be the receptacle of the government archives. Cupboards and desks had to be erected for the greater convenience of these scribbling gentlemen. Nearly four yards of the lower part of the windows were taken out and given over to whomsoever would take them! . . . . Our century has done its best to repair this piece of vandalism, and from the cartoons of Monsieur Steinheil, Monsieur Lusson has executed a series of compositions which coincide exactly with the effect and style of the pieces of window glass to which they are destined to form the sequence.

Large figures belong to the fourteenth century. At Chartres we see gigantic and terrible figures of apostles and prophets, lightly draped in tunics of severe fold, with gestures stiff and angular, standing out devoid of any tenderness or softness, their eyes round as those of a falcon, steadily fixed on the beaming brightness of the heavenly Jerusalem, their whole aspect at once ecstatic and sombre. . . . The impression which they leave on the mind is that of sublimity and grandeur. They seem like the miniatures in some colossal breviary — some Byzantine Psalter framed and bound in stone and iron. In them we see the Christian faith in its rudest and roughest form, but not a vestige of civilized life. This characteristic austerity is somewhat softened, however, by the figures of female saints, whose youthfulness and simple grace is still unattained by any other school of art.

WINDOW GLASS OF THE FOURTEENTH CENTURY.
(In M. Ph. Burty's collection.)

The figure of St. Catherine, which we here reproduce, meek and resigned, yet full of ardent faith like the flower which, though it bends with the wind, yet steadily turns its face towards the sun, is one most touching specimen of the window glass of the fourteenth century.

The actual window, in its original form and size, is in the church of Tournay; but we have the good fortune—and it is unprecedented, for we know of no other copy—to be in possession of the small rough model of it, originally prepared by the painter himself, that is to say, the piece of glass on which this predecessor of Van Eyck's—at least such we suppose him

by his style and ingenuity to have been—sketched out his first matured scheme, which his pupils have since carried out for the purpose for which it was evidently intended. I believe it to have been the work of a French master; but no Italian painter, even of this period, could have designed it with a firmer hand or a more delicate brush. It looks like a statuette standing in a niche of pure blue. The ground is blue, with a slight indication of black ornamentation about it. The wheel which St. Catherine holds, her sword, the sleeve of her inner garment, her curly hair, and the glory round her head, are of gold.

And this is what lends additional value to this particular specimen; it was in the first half of the fourteenth century that the golden yellow was discovered, an enamel colour which, when applied with a brush, greatly simplified the work; up to that time it had been necessary, in order to imitate gold for any special garment, head-dress, or some particular piece of furniture or ornamentation, to cut out pieces of yellow glass and surround each one with a framework of lead.

This new discovery, then, was made *àpropos*. About this time the glass-maker's art was emancipating itself from the sanctuary and making its entrance into palaces and the houses of rich merchants. Germany and Flanders betook themselves to it, and Cologne Cathedral has bequeathed to us reminiscences and examples of that sumptuous Renaissance, which are as true and faithful as could be the pages of a chronicle. This was at a time when workmen of all the Guilds of Ghent were so numerous that, by the gift of only a farthing from each one of them, a sum was collected sufficient to erect a church in honour of the Virgin. A mere traditional prosperity, however. At Bruges, during the ceremony which took place of endowing Philip le Bel with the coronet of a count, the Queen of France was unable to repress an expression of vexation at the wealth and luxury displayed by the ladies of her court: "I had thought," she said, "to have been the only queen in this place, but I find here hundreds!"

Italian Renaissance supervened to mollify the art which stood its ground in France, especially during the fifteenth century, and too often it was rendered by it affected and mannered.

Then it was that the picture—the combination of landscape with figures and of groups—triumphed in windows, and the idea of a decorative combination subject to certain rules, to produce certain aspects as a whole, was, if not abolished, at least greatly modified.

The Roman school, imperious and pedantic in its conscious succession to the great masters, waved all superior dictation, and was no longer willing to accept of the restrictive direction even of architects. Designs and cartoons were demanded of patrician painters, who, regardless of rule or other authority than their own taste, transposed for the ornamentation on window glass, tapestry, earthenware, or enamel designs, which ought to have been exclusively reserved for pictures.

The art of cutting glass with a diamond, and that of drawing lead out to almost an unlimited extent, afforded larger and wider surfaces to glass painters, and of this they took advantage, almost to excess, in Italy, at St. Gudule at Brussels, in fact, universally, but perhaps less in France than elsewhere. The chapel of the Château of Vincennes, which is by Jean Cousin, has some very vigorous specimens of this style in painted glass.

One of the finest pieces of glass of the Renaissance style that we are acquainted with is at Beaumont-le-Roger, a small town in Normandy. The subject is "The Entry of Christ into Jerusalem," done by some decorator of the Fontainebleau school. The small round window, of which we here give a copy, is of the rarest ingenuity both of touch and design; it represents the Angel of Resurrection at the Judgment Day, whose elephantine steed is trampling Death under feet, while his trumpet-blast is awakening the warrior, the merchant, the pope, and the king from the dead, and summoning them to appear before the judgment seat of God.

But coloured glass was now reflecting its last rays, like those pearls whose brilliancy fades and departs, leaving them only the title of dead pearls. It was buried in the same grave as the Gothic style of architecture, which so well agreed with our climate in its many variations of light and shadow. Palissy, who, as our readers will no doubt remember, himself worked for the glass-makers, in his "Discours Admirables," in 1580, deplored in the following terms the miserable condition to which this art of the painters and workers of window glass had fallen. He, however, attributes the fact to the great diffusion of the article produced, whereas it should have been traced exclusively to the change which had taken place in the social habits and tastes: "I beg you, turn your attention a little to glass, which, for having become too common among men, has been reduced to so low a price that those who make it, for the most part, live more miserably than

the rag and rubbish seekers in the streets of Paris. Both the art and the artists are noble; but many among these, who are gentlemen by birth, would fain be plebeians, in order to have money enough to pay their rates and taxes. Is this not a calamity to the glass-makers of the provinces of Périgord, Limosin, Xaintonge, Angoulême, Gascogne,

THE TRUMP OF THE LAST JUDGMENT.
(Specimen of French window glass of the sixteenth century.)

Bearnais, and Bigorre? In these parts glass is so reduced in price that it is carried and hawked about the streets and villages, by common buyers of rags and old iron, so that both those who make it and those who sell it have great difficulty in earning a livelihood."

From this time forth painted glass became a purely civil ornament,

and secular in its subjects. The Swiss adorned the window-panes of their public halls, of their taverns, or their country house, with legends either gay or sentimental. Here it is, too, that we meet with those figures of stout, fair, and fat old veterans, which we mentioned in passing as to be seen on those mugs and goblets of enamelled glass or stoneware, together with coats of arms, helmets with extravagant plumes, or, again, with charming landscapes. This Swiss glass, which is not rare, is almost unsurpassed in intensity and brilliancy of colouring. Sometimes it will present a fireside picture, together with the legend recounted there, while the spinning wheel turns its busy accompaniment. Or else we have a scene in the calm and dreamy existence of a scientific man, as he bends over the octavo volume open before him, over which the irisated rays of light are playing, and displaying the outline of the miniatures it contains. . . . . In the Middle Ages, stained and coloured glass was the "Illustrated Bible" of the poor; at the end of the sixteenth century it had become the book of the middle classes.

The seventeenth century did nothing. Not only did it protest actively, violently, and unjustly against all that was "Gothic," but also it liked to see to the bottom of things clearly. We cannot imagine Descartes to have been dreamy or vague in his ideas. Nor surely would Louis XIV. have consented to a veil being put over the majesty of the sun, his brother!

The eighteenth century, however, did better; it resolved, in cool blood, to break and shatter coloured glass. It was, as it were, a word of command throughout France to daub in yellow (which was formerly the colour of infamy) all chapels and churches, and substitute plain white panes for the coloured and legendary glass.

Then came a lengthened respite. At the commencement of this century that Gothic style, which had the power to move Voltaire, was so little reckoned as classical, that that school entirely overlooked it. It would have been impossible to fill in with painted glass the large classical windows of the Church of the Madeleine, which itself was intended to be the "Temple of Glory!" It would have made Vitruvius shudder, and caused the dome of the Institute to totter on its base.

But when the Roman school, with Lassus at its head, stepped forward to offer its services in the restoration of these venerable buildings

which so solemnly record the past history of religious advancement and artistic progress, when was gained the cause which Victor Hugo had so ably pleaded in a chapter of his "Notre Dame of Paris," after that Monsieur P. Mérimée had published his eloquent reports, it was high time to re-light the glass-workers' furnace, and begin to design cartoons. Art was no longer one-sided, exclusive, and narrow, as in the Middle Ages. On the contrary, the first thought of these generous artists, who fought in the foremost rank for its cause, was to consolidate and restore those edifices which time and the whims of men had shaken, and to complete the works which had been left unfinished, or only partially destroyed. Some experiments were made at Sèvres, by Brongniart; writers of great intelligence and merit, such as Monsieurs Didron, Bontemps, De Lasteyrie, and De Gérente, and later on, Monsieur Viollet-le-Duc, set to work to point out the real path to be followed in order to obtain effects of colouring as brilliant and as harmonious as those of the glass of the twelfth and fifteenth centuries.

The intention of these trials sometimes proved themselves more excellent than their results. Designers received the orders which should have been given to painters. The windows of St. Ferdinand's Chapel, the cartoons of which are exposed in the Luxembourg Gallery, show Mons. Ingres to have been, at least from the point of view of a glass-painter, a master who had especially hit upon the style of those Etruscan funereal bits of pottery which seem, from their silhouette designs and obscure colouring, to have been made with a view of conciliating the ghosts of the departed ones. But for grandeur of attitude, and the suppleness of the drapery folds, the figures of saints and angels of which this series is composed furnish us with examples of the brightest and best style. It is well known that some of Mons. Ingres' heads are portraits of the members of the royal family; for instance, St. Ferdinand himself is no other than the unfortunate Duke of Orleans.

In 1841, the King, Louis Philippe, gave an order to Eugène Delacroix for the lateral windows of the Church of Eu, the subjects to be St. Victoria, and St. John the Evangelist; and the following year, for the Chapel of Dreux, a figure of St. Louis at the Bridge of Taillebourg. Of these I have seen only the sketches, and they are marvellously fine; but a great judge in these matters assures me that they are the finest and best specimens of stained glass that our day has

produced, and I believe him, for the art of the glass-painter must necessarily aim at harmony and richness of colouring combined, for those tones which are traversed by the rays of light must ever be modified and softened by what surrounds them, and all depends on the judicious placing in juxtaposition of what are called the supplementary tones.

But before we proceed any farther with this work, we will ask of our

ST. HELEN.

FAITH.

(Glass windows, by M. Ingres, in the Chapel of St. Ferdinand.)

readers permission to place before them one page we have quoted from a study on Eugène Delacroix, which was published by Mons. Charles Blanc in the "Gazette des Beaux Arts." Never before in France had esthetics been spoken of with so much grace and persuasive authority. We have already alluded to the almost mathematical laws which rule the division and combination of different colours; we will now leave Mons. Charles Blanc to explain the more or less rigorous

manner in which these rules are to be observed by artists when their instinct has not sufficed to suggest to them the true secrets of it:—

"The ancients admitted of only three primary colours—yellow, red, and blue; modern painters limit themselves to the same. These three are the only colours which cannot be either decomposed or reduced. We all know that a ray, one of the sun's, is composed of seven colours, which Newton has called 'primitive;' these are violet, indigo, blue, green, yellow, orange, and red; but it is very evident that the word 'primitive' cannot apply to three of these colours, which are composite; namely, orange, which is a mixture of red and yellow, green, produced by adding yellow to blue, and lilac, which is a combination of blue and red. As to indigo, it can scarcely be termed one of the primitive colours, for it is nothing but a particular variety of blue. We cannot but recognize, therefore, that in nature there are but three really elementary colours, which, when mixed in couples, themselves produce three other composite colours, called 'binary' tones, namely, orange, green, and violet.

"By combining two of the primitive colours, for instance, yellow and red, in order to obtain the binary colour of orange, this binary colour will only attain the maximum of its brilliancy when placed side by side with the third primary colour not included in the combination. And thus, if red and blue be mixed in order to produce violet, this binary violet colour will be much enhanced if placed in juxtaposition with yellow. So it is also with green, itself a combination of blue and yellow, if placed in immediate contact with red. Mons. Chevreul has rightly termed 'supplementary' each of the three primitive colours, owing to the binary colour which results from each of them. Thus blue is the supplement of orange; yellow, that of violet; and red, that of green; and so each compound colour is the supplement of the primitive colour, excluded in its composition. This reciprocal and additional brilliancy is technically called 'the law of simultaneous contrasts.'

"If, therefore, the supplementary or compound colours be used equally, that is to say, subjected to the same degree of depth and light, the juxtaposition of them would so enhance them that it would prove too dazzling for the human eye to contemplate; but, by a singular phenomenon, these colours, which so prodigiously assist the

brilliancy of one another if placed together, are instantly destroyed if mixed together. So if we mix blue and orange together in equal quantities, the orange not being more orange in reality than the blue is blue, the combination destroys both tones, and the result is a kind. of colourless grey.

"If, on the other hand, they be mixed in unequal quantities, they will be only partially destroyed, and the result will be a species of neutral tint—a variety of grey. This being the case, new contrasts may be obtained by the juxtaposition of two supplementary colours, one of which is pure and the other compound. The proportions are unequal, and so one of the colours triumphs over the other, and the intensity of the most powerful one in no way interferes with the harmony of the two. Suppose now that the same colours, only of different degrees of intensity, be placed side by side—for instance, a light and a dark blue—an effect will be produced in which there will be contrast, owing to the difference of intensity between the colours, and harmony from the similitude of tints; and if two portions of one colour be placed together, one of which is pure and the other compound, for instance—bright blue with a grey blue—there will result another kind of contrast, modified by analogy. We see that there are then divers methods, all different but all equally infallible, for fortifying, sustaining, reducing, or neutralizing the effect of one colour, and that by altering, not it, but the one or ones which are beside it."

It is easy to make experiment of these curious observations either with a box of French chalks, or with coloured wafers.

We all must remember to have noticed how much better a bed of scarlet geraniums looks in a park if surrounded with green sward, than when it is placed immediately beside walks of gravel, or denuded beds of greyish earth; we know, too, how difficult it is in arranging a woman's dress so as properly to combine pink with green, and blue with yellow, in order to avoid producing a staring effect, which would suggest the varied colours of a green parrot to the mind; why, also, the brightest shade of yellow is called the rouge of dark beauties,* &c. &c. The people of the extreme East, the Japanese, the Indians, Persians, and even Negroes themselves, instinctively know these facts. We see specimens of cigar-cases which the people on the African coast make with plaited reeds, and exchange for glass beads and

* Le fard des brunes.

brooches from Murano, which are marvels of harmony and vigour of colour.

The people of the West, whose visual organs are notoriously less keen, have commissioned their scientific men to seek for those laws which nature affords us, with less intensity and depth of colour, however, than in the flowers, trees, birds, fishes, shells, skies, and landscapes of countries under a warmer sun. The artists of the Middle Ages, some of them eminent European colonists, had laid aside these quaint and hitherto victorious laws solely with the intuition of genius. In our modern days the public taste is for colour, while it protests against the vagaries of colourists.

Painters on glass are returning to it also, but still, in our opinion, too guardedly. Their windows—I am not now alluding to those makers who are artists and archæologists, such as Monsieurs Didron, De Gérente, Lusson, and others—are either heavy, or staring and gaudy; they offend us as does an instrument just out of tune. This has given rise to the belief that all the old secrets and methods were lost—an erroneous one, inasmuch as chemistry has replaced certain elements by ingredients whose effect is far more certain, and which do not require that mysterious handling and arrangement which had once to be communicated from ear to ear, and whispered in the workshops—an expedient no longer possible at the present day. The specimens of beautiful modern glass are now too numerous for us to mention any in particular, at least without the risk of being unjust to the rest.

A rival school, however, and one which has the pretension of being in more perfect possession of the spirit of the age, is that of Mons. Maréchal, of Metz, which consists in the transformation of a window into a picture, and that of a picture painted as far as is practicable by acknowledged current methods. In our humble opinion this is a mistake. The tones of colouring, reproduced by the transparency of glass and reflected light, can never be the same as those in nature. The more you multiply them so as to produce the numerous and subtle tints of a countenance, for instance, or a drapery or landscape, the more you modify or intercept the light, while you gradually arrive at an artificial or incomplete result irritating to the logical mind.

We only say this, however, with regard to the theory of the matter;

for, practically, MM. Maréchal, father and son, are artists of great merit, and whose conscientious endeavours and earnest belief in the correctness of their scheme entitle them to the highest esteem. They are the authors and makers of these huge windows which are placed at both ends of the centre part of the Palais des Champs Élysées, and which prove our critics to be right. They fail to be decorative, because they aim too much at imitating real pictures painted in fresco or in oil colours.

Another artist, Mons. Steinheil, has better succeeded in obviating the difficulty, by filling large surfaces with bold tints, and reserving for details those supplementary colours of which Mons. Charles Blanc has just taught us the use. The works of Mons. Steinheil have now become very numerous. He is one of our purest designers, and an artist of superior merit. As a painter, he is gifted with the most delicate inspirations, and the way in which he can render the joys and sorrows of private life denotes a tact and a power of observation quite peculiar to himself. In his restoration of the windows and mosaics of the Sainte Chapelle and many others besides, he has betrayed the most rare of all qualities, that of being thoroughly acquainted with the schools anterior to his own, as to their spirit, their form, their style, and their detail, and yet never to be guilty of plagiarism. He fulfils, in a reverse sense, however, the words of the poet:

"Sur des pensers nouveaux forger des vers antiques. . .

It is not only in France, but also in England, Germany, and Belgium, that, in the last few years, have sprung up artists and artisans of quite a new order. It is long—and yet scarcely thirty years have elapsed—since the factory of Mons. Bontemps at Choisy-le-Roi produced, amid shouts of applause from an admiring public, the first good quality of red glass, coloured on one side only; a perfect imitation of the finest bits of ancient red glass.

We have already had occasion to mention the revolution that is in store for the art of painting on glass owing to the use of hydrofluoric acid. Since it is possible to cover one surface of white glass with a plate of glass of another colour so that it exactly adheres to it, surely by means of this acid a means will be found of conveying colour to the plain white glass so as to produce a most varied and picturesque style of design and decoration.

LAZARUS AT THE RICH MAN'S GATE.

(Window of St. Germain l'Auxerrois, executed by M. Oudinot from a design by M. Steinheil.)

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Who knows whether our mirrors will not one day be ornamented after this fashion? This method is in no way impracticable; all that now remains is to discover the means of fixing the decoration to the substance. Thanks to the means of melting glass, there is now scarcely any limit to the dimensions of plate-glass; for instance, at the factory of St. Gobain. The total production of plate-glass in Europe in the year 1860 was no less than 835,000 square mètres.

The more life becomes difficult and feverish, and the smaller the space and height of rooms and houses, especially in crowded towns and cities, the more also we require large windows, both for the admission of light and air. They help to give us at least the semblance of liberty; though it is but an illusion, it lends a graciousness to our life. An increased amount of light to the body seems to add serenity to the soul.

It has often been asked in what consists the resemblance or parallel merit of modern industrial art as compared with that of the Renaissance? It is true that they are, in many respects, surpassed in minuteness of detail, the conditions of manipulation and requirement in the modern day having altogether changed and been displaced; but how frequently do they absolutely triumph in their general result! What more resplendent than a modern table covered with crystals, cups, and glasses, increasing or decreasing in size as do the pipes of an organ, bottles, flower-glasses, flower-stands, bowls and dishes for fruit? What is so effective and grand as those tall mirrors of seven or eight yards high, which double the size of a reception-room and the number of its lights three and four fold? and what more gracious to the eye and senses than a boudoir early divided from a green and flowery hothouse by a transparent piece of plate-glass, while snow-flakes are falling outside, unconsciously increasing the sense of comfort within?

We are told that the most ancient glass factory in England, one in Lancashire, at Raven-Head, was built to rival that of St. Gobain. An English admiral, angered by having been refused admittance there, tempted over one of their workmen, and founded the manufactory which is still standing. England now produces 350,000 square mètres of plate-glass yearly. More than three-quarters of this quantity is used for windows, the rest for mirrors; for the English, putting their

own construction on the fable of Apollo vanquishing darkness, held that "light is the murderer of spleen."

Here, again, we see the law of external decoration combined with that of internal ornament with regard to houses and dwelling-places; usefulness walking side by side with beauty. Is not this a sign of progress?

ENAMELS.

What is enamel, and which are the denominations adapted to designate its principal varieties?—Were the Egyptians acquainted with it, or did they only use coloured pastes?—Enamelled Etruscan jewels—Cloisonné enamel of the Chinese—The cloisonné of the Byzantines—The monk Theophilus, and his "Treatise of Industrial Arts"—How cloisonné enamels are made—Champlevé enamel—The French Renaissance, and the enamel painters of Limoges—Nardon Pénicaud—Léonard Limosin; his portraits and decorative works—Pierre Rexmon—Jean Courtois—The decadence of enamel—Jean Petitot, and his portraits at the courts of Charles I. and Louis XIV.—The progressive process necessary for the production of an enamelled plaque—The cloisonné enamels on crystal of the Renaissance—The enamelled porcelain of Paris and of China—Varnished cements—Photography applied to enamels—Painters' enamels, executed by Mons. Claudius Popelin—The modern application of enamel—Conclusion.

ENAMELS.

It has been thought that the word "enamel" was originally derived from the Hebrew expression of "Haschmal," used by the prophet Ezekiel, but perhaps he meant thereby to designate a metal. The low Latins write it "smaltum," the Italians "smalto," the Germans "Smeltzen," and the French "émail," which is the same as the English "enamel." This is all that even the most learned in such matters have yet been able to discover on the subject. What workman was the first to use enamel? and in what century did he live? The answers to these questions are scarcely better ascertained.

Enamel is actually glass more or less coloured with metallic oxides, either opaque or transparent, which, after a considerable amount of baking, absolutely adheres to the metallic plate, be it copper, iron, or glass on which it is placed.

But as there is a vast difference in its various applications, they have been classed into sections, namely, "*cloisonné* and *champlevé* enamels;" that is to say, the enamel is introduced into movable cloisons or partitions of metal fastened edgewise on the surface of a metal plate, or it is inserted in spaces cut out (levés) on the field of a plate with a burin or flat graver; also *painted enamels*, that is to say, the enamel spread over the surface and painted at the whim and fancy of the artist, and presenting tints in harmony, and allied with and to one another.

Everything goes to prove that the cloisonné enamels are the oldest,

and that they are of Oriental origin. The champlevé embossed enamels are only a new development of the same, which was introduced in the eleventh century by some able German workman, and was known and practised much before this, both in England and at Limoges. The original idea was, no doubt, to imitate inlaid or encrusted stones of great value, or even bits of solid and coloured clay fixed in their places when cold into partitions of metal.

It has been denied that the Egyptians, who themselves were such clever glass-makers and Ceramic artists, were ever acquainted with the

EGYPTIAN BRACELET IN GOLD, ENAMELLED.
(Munich Museum.)

art of enamel; at any rate, it is probable that they practised it but seldom. Among the almost countless number of sacred utensils and things for daily use, which have at different times been excavated in their necropolis, but few have been identified as being genuine bits of enamel.

How is it that a people so devoted to indestructible arts ever neglected so precious a one as this?

Whether the partitions of the delicate and minute bracelet of the Munich Museum, which we have reproduced above, were filled with

melted glass, or else with a species of mastic, could only be ascertained by chemical analysis.*

The Greeks and Etruscans were cognisant of enamel, even of that which was termed painters' enamel. The Campana collection at the Louvre possesses some funereal crowns which are ornamented with small enamelled flowers; also some swans, peacocks, and doves, executed with such neatness of hand as to indicate that the art was then in current practice. The process in these is probably the same as that of the Renaissance jewels, on which are represented chimeric figures and heroic combats. We will further speak of them in connection with the Chinese painted enamels, and the enamels of Limoges.

EAR-RINGS OF GOLD ENAMEL.
(Etruscan jewellery. Campana collection.)

The origin of enamel is, then, a most delicate question, and we have not the adequate means of answering it satisfactorily. We will start from its entrance into Byzantine territory. What first brought it into existence? Most probably it was suggested by the desire of imitating pieces of cloisonné enamel which were imported from Persia, India, or China. Apollonius of Thyane, the famous thaumaturgist, writes, "that when on a tour through Asia, he saw at Taxil, where a prince reigned over the kingdom of Porus beyond the Indus, a temple, the chancel of which was worthy of all admiration. On each of the walls were fastened large plates of brass, covered with historical scenes. The heroic deeds of Porus and of Alexander were repre-

* I have now before me an Egyptian gold-enamelled amulet, of oval form, representing in relief a lion-headed deity crowned with the orb and asp, wearing a hood and a semicircular breastplate with three rows of enamel, the inner being of plain dark lapis-lazuli enamel, the middle of round gold bosses filled in between with opaque white, and the outer row of gold triangles on dark-blue enamel ground.

This very interesting specimen (belonging to Mr. W. H. Forman) differs essentially from both the *cloisonné* and *champlevé* enamels; being formed of a thin plate of gold with repoussé design, backed with the usual Egyptian blue earthenware or frit, of which the small deities are made, but unglazed.

The enamels on the front are unmistakeably vitrified, and by the aid of a magnifying glass numerous globules of melted enamel, which have not incorporated with the mass, may be distinctly seen on the surface.—Ed.

sented on copper, silver, gold, and black brass. . . . These various materials, united by means of melting heat, had the effect of colours." Can we take these to have been anything but enamelled surfaces?

But what may perhaps most have struck the imagination of the Greeks of the lower empire (though the fact of their being of so early a date has been much contested) were those plaques, coffers, libatory vases, and drinking-cups of cloisonné enamel made by the Chinese, in delicate tints of rose-colour, green, blue, and yellow. Rivers run across them, decked with open water-lilies and large peonies; monsters stride along them, rolling their eyes and twisting their backs, showing their sharp and pointed teeth. The vase we here reproduce we have copied from one which is in the collection of Mons. E. Galichon, editor of the "Gazette des Beaux Arts," and it is one of the finest we know of. Every detail of it is admirable; in shape it need not shrink from competing with the severest of Etruscan vases; the hues and tones on it are as harmoniously blended as are those of an Indian shawl; the material even, which is rendered slightly rough and uneven by the bursting of small air-bubbles during the process of baking, retains the light while it softens the harsher reflections it receives. The disposition of the handles, which are formed of heads of monsters, marks, as we have remarked already with regard to porcelain, the care with which Oriental artists relieve the monotony of a mere outline.

The Byzantines must have accepted these models the more willingly, because they reminded them of those mosaics of which the Romans were so fond, and that they themselves executed with such rare and minute perfection. Do not the interstices of little cubes of marble, thrust into the mastic, answer to the partitions of gold which divide the different colours? Perhaps also the aim of the first Byzantine enamellers was to alternate on their shrines and reliquaries figures of their saints in polished but uncut stone.

Under Porphyrogénète, Byzantine was full of it, and yet the Byzantine cloisonné enamels are very rare, no doubt, as we will further explain, because they were made in a gold plate, and when, in the sixteenth century, the painted enamels were in the height of fashion, they shared the fate of all that is not new and fashionable.

It is only within the last twenty years that our learned men have lent it any attention, and have given it the special name of

ANCIENT CHINESE CLOISONNÉ ENAMEL VASE.

(In M. Emile Galichon's Collection.)

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cloisonné. One of the most ancient examples of it—the date of which has been approximately ascertained—is the celebrated iron crown, symbolic of the Italian dominion, which was offered to the cathedral of Monza, by Theodelinda, Queen of the Lombards, who died in 625. The largest, however, and the most complicated, is the "Pala d'Oro" of St. Mark's, at Venice, the frontage of an altar where the enamels themselves are dimmed by the fire of precious stones, and the multiplicity of pearls with which they are surrounded. This combination of plaques and statuettes in relief was made, at least a part of it, at Constantinople, for the doge Orseolo, at the end of the tenth century, which was so hard and sad a one for Italy, and which, on the other hand, brought Byzantine art to its highest perfection. Some covers of missals, also some sword-sheaths, and the ornaments and gloves of Charlemagne, are preserved at Vienna among the imperial treasures.

The monk Theophilus—his country, and even the period at which he lived, is unknown—has bequeathed to us a pamphlet of the most interesting sort, on the industrial arts of the Middle Ages. From it we will here borrow a few details on the process of making the cloisonné enamel. His book is called "Diversarum Artium Schedula." It is believed that he was German, and that he lived at the commencement of the twelfth century, when the art of Oriental artists showed such independence, minuteness, and force. Eight of his manuscripts are known; the most complete of them is at the British Museum, in the Harleian Library. It treats of the preparation, the mixing, and the use of colours in wall-painting and painting on wood and on parchment; also of the fabrication of glass, of stained windows, of vases in clay, and of enamelled pottery; of goldsmith's work and of cloisonné enamel; and lastly, but less amply, of sculpture on ivory, of the casting of bells, and the construction of organs. Besides being a practical work, it is evidently intended to inspire the souls of artists, and to encourage them to ornament the house of God with the fruits of their genius; which house was so miserably plundered during the hard years of the tenth century, when all humanity had thought that the very world was about to be extinguished.

A plate of metal, gold, or copper was prepared, and the edges of it were turned up, in order that it might retain the enamel; then the shapes and outlines of the figures to be reproduced were drawn out

upon it, by means of narrow bands of metal placed edgewise upon the field or surface. Such are the iron bars which surround painted panes of glass. This trellis-work was fixed to the plaque, and the intervening spaces or partitions were then filled by means of a small spatula, with pulverized or only slightly wetted enamel, which were to represent the flesh, drapery, or groundwork of the picture. Then the whole was placed on a sheet of iron and put in the furnace, where the heat, which was great enough to melt the ground glass, but not the metal, liquefied the contents of the little cells or compartments, which were then refilled if the surface was not found to be uniformly smooth. After this the whole surface was submitted to a series of polishings, which smoothed both the enamel and the metal of the divisions or cloisons.

This process, which is described in almost the same terms by Benvenuto Cellini, in his "Traité de l'Orfévrerie," with regard to filigree is the same as now in use.

The palette of the Greek artists was very rich and very fine. They must have had a keen knowledge of the effect produced by the immediate juxtaposition of two colours, for (except in colouring faces) the colours never touched one another, and in consequence there was never any running of one into another, however slight it might be.

The process called *champlevé*, only differs from the one we have described (the *cloisonné*) in the preparation of the plate. The burin or flat graver dug out of the surface of the plate all the portions which were to be filled with enamel, avoiding those parts which were to form the outlines. From the earliest days our forefathers appear to have used it. Fibulæ and rings, discovered here and there at different times in France and in England, leave no doubt on the subject. Philostrates, the Greek rhetorician, who lived at Rome at the beginning of the third century, at the Court of Septimus Severus, wrote on the subject of the bits and bridles of the horses which were ridden at boar-hunts: "They say that the barbarians of the ocean borders spread these colours on large surfaces of brass, greatly heated; to these they adhere and become as hard as stone, retaining the design originally traced upon it." The vase, in bronze, which we here reproduce from a chromo-lithograph in the "Histoire des Arts Industriels," by Monsieur J. Labarte, was found in England. It was subsequently destroyed by fire. From the simplicity of its form,

ROMANO-GAULISH VASE, IN BRONZE ENAMELLED.

(Found on the Bartlow Hills. Drawn by M. J. Labarte.)

the useful shape of its handle, and the chasteness of its ornamentation, it is easy to recognize in it the work of a Gaulish enameller.*

Either through its being brought to perfection, or simply carried on by the artists of the borders of the Rhine and by those of Limoges, the process permitted the execution of plaques of great dimensions, figures, and designs in high relief. They supplied the enormous demand for reliquaries and objects for religious services, which occurred at the return of the Crusaders, in order to contain reliques of saints and martyrs. In the museum of Cluny and in that of South Ken-

THE ANGEL AND MARTYRS.
(From the collection of Prince Czartoryski. Cologne champlevé enamel, thirteenth century.)

sington, in the treasures of different churches, and even in the collections of the humblest amateurs, one meets with a great number of crosiers, chalices, crosses, and reliquaries, in the form of churches with transepts and names, *custodes* for portable altars, figures of doves which were suspended over the altar, and which contained the consecrated wafers, vessels for incense, and the covers of the gospel books and clasps. In Westminster Abbey, have we not seen a whole tomb enamelled throughout? It is that of William of Valence, a colossal

* It was discovered in an excavation on the Bartlow Hills, Essex.—Ed.

sarcophagus, which, when the sun shines upon it, looks as if it had been carved out of a block of gold.

Enamel and illuminated manuscripts are all we have left of the history of painting in these obscure periods. It must not be thought, however, that it is only under this title that these plates have the right of admission into the collection of an earnest and serious amateur. If their aspect appears too often to be barbarous, it is because we are in the habit of meeting with works of commerce. But here and there what gleams of robust and refined art we encounter! How tender and victorious is the attitude of that angel who is bent, and, as it were, soaring down like a bird of Paradise on the furnace whose flames are

THE FLIGHT INTO EGYPT. THE ADORATION OF THE MAGI.

(Champlevé enamels of the French, fourteenth century.)

miraculously sparing the young martyrs, Hananiah, Mishael, and Azariah! How naïvely are rendered these two scenes of the "Flight into Egypt" and the "Adoration of the Magi!" These two last plates decorate the pedestal of a small statue of the Virgin, in silver gilt, offered to St. Denis, in 1339, by Jeanne d'Evreux, the wife of Charles le Bel.

But soon the Renaissance came, and humanity being present at the awakening of antiquity, this "Sleeping Beauty," whose sleep had lasted thirteen or fourteen hundred years, asked the industrial fine arts to produce, with new materials, the forms art had assisted her to conceive—

LIMOGES ENAMEL EWER. SIXTEENTH CENTURY.

(By Jean Pénicaud.)

art, the religion and the poetry of life. With the Renaissance first appeared the painter's enamel.

In the region of fine arts nothing is produced rapidly, or at the first attempt. Each fact, or each triumphant master, has been preceded by tentative efforts and forerunners, whose fate it is to be overlooked and forgotten.

The eye as well as the mind requires to pass through graduated stages before it embraces the whole of a new doctrine. Between the *champlevé* and the painted enamel the interval would be inexplicable, had not translucid enamels, even as early as before the thirteenth century—and in conjunction with the gradual transformations of stained glass—accustomed the eye to seek for agreeable colouring in preference to the hieratic severity of the outlines. The means by which they were obtained were placing on the gold or copper, which were very slightly scooped out—a thin layer of transparent enamel. This is also the method with which is ornamented the cases of some ladies' watches, to which we will hereafter refer.

A FIGURE OF AUTUMN.
(Enamelled plaque, attributed to Pierre Pénicaud. Collection of Mons. Gatteaux.)

The revolution was deep and earnest. It was provoked by the desire, on the one hand, of representing exactly the portraits or the decorative scenes of which Italy had taught France the secret and rapid process, and especially for that common-sense economy which is the key to all successive transformations in all industrial fine arts. Cloisonné enamel had replaced the precious stones inserted in metal; enamelled plate soon supplanted the heavy plate of massive gold and silver of the moyen age. Requiring only one surface of metal, after the fashion of the painter who needs but one surface of wood, cloth, or plaster, it suppressed intrinsic value and replaced it by ideal value. Feudal times were fast dying out. Royalty ruined her subjects much more

certainly by inspiring them with her habits of luxury than by confiscating their lands. This new state of society, devoted to pleasure, had brought away from the Italian wars the taste for refined and external luxury. The painter's enamel came just in time to garnish the dressoirs with ewers and spice plates, and the credence tables and oratories with pictures and images of a tenderer character; to repeat on the surface of furniture and coffers, medallions of Roman emperors and mythological scenes, softening, with its liquid hues and deeper tints, the jewellery of the ladies and the swords of the men. It was a complete revolution in the conventional character of goldsmith's work, as well as in that of household furniture and dress, and it was at Limoges that the first fuel was put to the fire.

This movement, if not this invention, of a process to which, as we have already stated, the enamels of low-relief and translucent had led, dates from the first years of the sixteenth century, and a glass-painter of Limoges, named Nardon Pénicaud, seems to have been its chief promoter. One of his masterpieces, ordered, there is little doubt, by René II. of Lorraine, and which is to be seen at the Museum of Cluny, is signed and dated: "The first days of April, one thousand five hundred and three." He was succeeded by several of his name, over whom we must pass in order the sooner to reach Léonard Limosin.

The first enamels which are known of Léonard Limosin, who is a true and great master in this branch of art, are dated 1532; the later ones, which bear the marks of an aged hand, are of 1574. His long career produced many a triumphal success. He was painter to the King, and we know that at the court of Francis I. and of his son, this can have been no sinecure. He painted for the Rosso, who decorated Fontainebleau, large ornamental plaques, which the Primatice had destroyed; but the portraits which have been preserved, the triptychs, paintings *en grisaille*, figures of saints, cups, and bowls, are innumerable, bearing his glorious monogram of LL., sometimes accompanied by a fleur-de-lis. In the Apollo Gallery at the Louvre we see exhibited in its glass cases a portrait of Francis I. as St. Thomas. The portrait of Henry II. starting for the chase with his arm round "Madame Diana of St. Vallier, Duchess of Valentinois," is more maliciously than certainly attributed to him. The series of his portraits of kings, princes, and lords, is priceless, and

HENRY II. AND DIANA OF POICTIERS.

(Limoges enamel, by Léonard Limosin. Louvre Collection.)

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betrays as much the genius of the painter as the adroitness of the practitioner.

The fine profile of Henry II. which we here reproduce was lent to us by an amateur of Tours, whose collection is especially rich in enamels, Mons. Roux by name. The King, whose aspect is both sensual and noble, is dressed in a coat of white, with gold spots, with a collar as high as his frill, and over that is a wider and looser garment of white, lined with ermine. What the medallion which hangs from his neck represents is hardly discernible; but it is suspended by means of a thin gold chain. In his right hand he holds a dark pair of gloves. His cap, of brown velvet, is ornamented with a flowing white feather. His hair is cut short, but his moustache and beard are very long. His profile, which is raised on a green ground, singularly reminds one of the face of his father, Francis I., though it is less the type of a crowned satyr than was his; for instance, in the portrait left to us of Francis I. by Titian, and especially in the bust of him which now stands in the rooms of French sculpture of the time of the Renaissance. It is of the highest historical curiosity, and one which has been unedited until now, as are also most of the objects reproduced by our designers for this book.

Mons. Léon de Laborde, an excellent judge, has thus characterized the style and manner of Léonard Limosin, at the climax of his talent, in 1553: "The general effect is brilliant, light, and harmonious; it is relieved and cheered by bright sky-blue tints, and turquoise blue sparkling on a shining ground. He is specially distinguishable by a tint of bright yellow, which he always puts in the hair, as also by pink and limpid flesh tints, which add to the delightful feeling of surprise caused by these enamels, and have something of the brilliancy of an ever-changing satin. No one knew so well as he how to make use of golden touches wherewith to ornament his medallions or his designs on a black ground." He has reproduced many of the works of Raphael.

The enamels of Léonard Limosin are the most sought for among amateurs. Besides their value as historical records, and the vast size of the plaques—such, for instance, as those which form the chief ornament of the chapel in the Church of Chartres—they are living examples of the style of furniture and household decoration in the time of the Valois, when the love of luxury was at its height. There

are in the Louvre a draught-board and a backgammon board, which are marvels of style and finish. The squares are alternately of translucent emerald green, and of white, and on the latter are small figures in imitation of antique engravings on stone, etched in black, with incomparable distinctness and elegance. What exquisite pieces of furniture and what a perfect combination of styles in decoration, dress, and ornamentation, they suggest to have existed in the vast rooms where they were used by kings and princes!

It is to Pierre Raymond—who signs P. Rexmon—that we must chiefly attribute the vogue of enamelled goldsmith's work. This peculiar branch of art is sufficiently interesting for us to leave Léonard Limosin, who himself was chiefly a painter, undisputed possession of the orders he received from the court and elsewhere, both for portraits and the painting of domestic and religious scenes.

Pierre Raymond's first works bear the date of 1534, and the last of them that of 1584. He seems chiefly to have been a manufacturer, the head and guide of a large and excellent workshop, for we know that the nobility of Germany, England, and Holland made their purchases of him. Even until, comparatively, lately, the patrician families of Artzt and Welser of Augsburg, and Tucher of Nuremberg, were in possession of dinner and dessert services, ordered and obtained by their ancestors of Pierre Raymond. We have seen a series of plates and dishes by him at the Louvre, copied after the composition of Etienne Delaulne, the "Twelve Months of the Year."

Jean Court, generally known by the name of Vigier, was a descendant of that large family of Court, or Courtois, or Courtey, of which there were several Jeans and one Suzanne, and was more immediately descended from a glass painter of La Ferté-Bernard. He signed I. C. D. V. (Jean Court dit Vigier).

His enamels may easily be recognized by their minuteness of detail and the delicacy of their outlines, a great charm of colouring, especially in the flesh tints, and a very remarkable power in handling his pencil. The most charming specimen we know of his work is that pretty cup purchased at the Pourtales sale, and which was bought by J. Malcolm, Esq., of London, for the considerable, though not extraordinary, price of 35,000 francs. Its date was 1556. Its triple interest—artistic, historical, and sentimental—ought to have detained it upon French soil. It was presented by Francis II. to his lovely

SOTAIN

HENRY II.

(Limoges enamel, by Léonard Limosin. Roux Collection.)

affianced bride, Mary Stuart. On the foot and the cover, a gilt shield of the arms of Scotland surmounted by the French crown, shines out from the surrounding painting *en grisaille*. On the cover is a figure of victorious Diana, drawn in a triumphal car,

BETROTHAL CUP OF MARY QUEEN OF SCOTS.
(Enamel by Jean Courtois. In the possession of J. Malcolm, Esq.)

accompanied by her troop of nymphs and greyhounds. Inside the cup we find the repast of the gods on the occasion of the marriage of Cupid and Psyche, in some respects a copy of Raphael's famous fresco; the inside of the cover is ornamented with four superb busts in medallions, surrounded with characteristic arabesques,

such as a vine pattern, which runs round the base and foot of the exterior of the vase. The amiable princess took it away to Scotland with her, a token of remembrance of the husband she lost after only eighteen months of marriage life! How this present escaped the wreck of time and the revolutions of fashion is a mystery to us.*

The art of painting on enamel passed away with the sixteenth century. It perished with the Valois. In his lamentation about the "arts that perish," &c. &c., Bernard Palissy mentions: "Enamel buttons (a truly pretty invention) which originally sold for three francs a dozen were finally given away by those who made them for a halfpenny a dozen." Then he adds: "Have you not seen those enamellers of Limoges who, for having kept their invention secret, were soon reduced, their art having fallen into such poor repute, living only on the money their work could fetch. I remember to have seen sold at three halfpence a dozen badges which were worn on the caps, which were so exquisitely worked, and the enamel so perfectly melted on the copper, that no painting could equal the charm of them. And not only was it thus once, but a thousand times; also ewers, salt-cellars, and every other imaginable article for the table which they had taken it into their heads to make. How much was this to be regretted!" These badges were flat pieces of metal—or medallions which were worn on the cap; they generally specified to which seignorial family the person who wore them happened to be connected by whatsoever tie, and this was generally called the "livery." Superstition soon got hold of this custom, however, and convents, churches, chapels, &c., sold immense numbers of these badges, on which were represented figures of saints, supposed to have the power of curing every description of malady possible.

"The Rape of Helen," by Martin Didier, after Raphael, is well worthy of our attention; but in this rapid glance at the finest and most flourishing periods of decorative art, we have only time to notice a few works of the great masters themselves. We will not linger therefore more than to quote those names which figure most frequently in the catalogues of sales or on the most celebrated pieces: nor will we dwell upon the plaques signed K. I. P., which have been the subject of much discussion, nor before the works of Nouailher, Laudin, or

* Our engraving only represents the cover of this precious and valued present.

those of workmen who, as late as the eighteenth century, went on painting figures of the Virgin with Seven Swords, Christ Blessing the People, or representations of St. Thérèsa. Minuteness of detail and precision of touch triumphed over all other conditions of merit; and as our readers reasonably expect that we shall not keep them hanging over the examination of certain watch-cases or snuff-boxes, we will pass on

THE RAPE OF HELEN.
(Enamelled plate by Martin Didier. In Mons. Charbonnel's collection.)

to our own day, after pausing, however, before the name of an eminent enameller, Petitot.

In Mariette's valuable Notes on Art and Artists of his time, we read that Jean Petitot was born at Geneva, in 1607. His father was a wood carver. His profession of hand-workman, at a time when it

was all the fashion to enrich jewellery and ornaments with subjects and figures painted in enamel, gave him the habit of painting flowers, leaves, and running patterns with great neatness and facility. He went over to England in the reign of Charles I.

There the King's jeweller set him to work about a portrait which he afterwards passed off as his own work. Van Dyck,

THE ADORATION OF THE SHEPHERDS.
(Enamel; signed K. I. P. Baron G. Rothschild's collection.)

however, insisted on seeing the workman at work; there was no alternative but to produce the young Swiss. The first portrait by Petitot, under the personal supervision of Van Dyck, was that of the King. It was marvellously truthful as a likeness, and was a source of orders without number to its author. The greatest number

of his enamels are still even now to be found in England. After the tragic death of his august protector, Petitot returned to France. In the course of his long career, for he lived to be more than eighty years of age, he painted several portraits of Louis XIV., the Queen-mother, and the more illustrious members of the Court. P. J. Mariette, who was an amateur of much refinement of taste, possessed the portrait of the lovely Countess d'Olonne, after Mignard, represented as Diana, and painted by Petitot; this piece of enamel was surrounded with an oval garland of flowers, in relief, executed by a very able jeweller of that time, Gilles Légaré.*

The medical practitioner and chemist, Théodore Mayern, also a Genevese, was the first who taught him when in London how to mix and compose certain opaque enamels, the tones and colours of which were remarkable for their freshness and truth. Nevertheless, many of Petitot's medallions are too red. Most of his portraits, worn as brooches or on bracelets, have been either broken or irreparably scratched. Others, incredible as it may seem, have been pounded in the jeweller's mortar, because they happened to be painted on a gold plate! This reminds one of the hard fate of some of Jacques Callot's copperplates; after the death of that clever engraver from Lorraine, they were sold to the ironmongers, who converted them into saucepans!

Some of the portraits painted by Petitot are scarcely larger than a sixpence. Yet the merit of the design and the precision with which it is traced, the face so clearly defined, and the taste of the whole thing so good and easy—all these combined leave one no opportunity for criticism, nor is the eye at all offended by the diminutiveness of the whole. The triumph of workmanship is quite lost sight of in the spontaneous study of the personal character and temperament of him who is represented. It is miniature painting raised up to the standard of historical art. The Louvre possesses a very interesting series of these.

The portrait of Turenne, in the possession of Mons. L. Double, and which ornaments the top of a golden box chiselled by Mathis de Beaulieu, jeweller to Louis XVI., is above price. Philippe of Champagne himself never painted more elaborately nor yet more simply.

Petitot's enamels were on gold; this is the metal of all others

* This exquisite enamel painting, with its beautiful enamelled frame, is now in the possession of R. S. Holford, Esq.—Ed.

which suffers least in the necessary and often-repeated exposure to the heat of the furnace; on its surface we find no traces of oxydization to produce chemical modifications in the results. In our chapter upon goldsmith's work, we shall see what excellent advantage the jewellers of the Renaissance reaped from this fact, more particularly Caradosso, a Milanese, of whom Benvenuto Cellini speaks with such warmth.

Platina is the next best to gold, and for the same reason; but it is a dull metal, and somewhat scarce, and so it is but seldom used. Iron and cast-iron have the great drawback of cracking and becoming scaly, or, what is infinitely worse, when the painting is finished and complete, and has even stood the test of time, under the influence of a sudden change of temperature the enamel covering will suddenly burst from it with a loud report, and scatter itself in a thousand pieces.

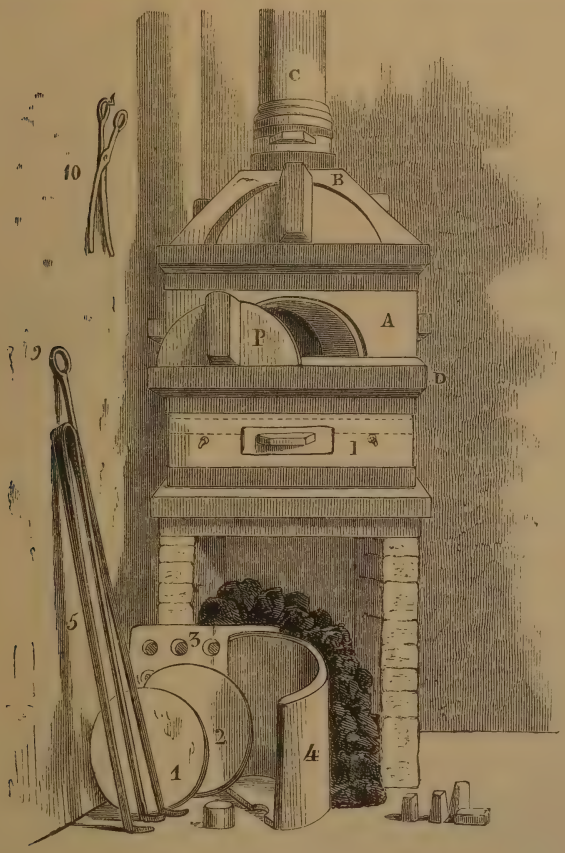
Copper has always been the most desirable metal, especially if the plates of enamel should have to be of any dimension or size. It is used in thin sheets on account of its retractability; but we will describe the process by which a plate is enamelled, not merely as we have gathered it from books, but as Mons. Claudius Popelin, one of the cleverest enamellers of our day, has had the kindness himself to illustrate it, time after time, under our very eyes.*

First, it is necessary to provide ourselves with a very thin and very pure sheet or plate of copper, which is called "rosette" copper. It must then be bent, so as to be rendered concave on one side and convex on the other, so that it may resist the rumpling caused by the fire. This is effected with a hammer. Then it is steeped quickly into water diluted with a few drops of sulphuric acid, and again withdrawn, which operation divests it of that slightly rough surface created on it by the first baking. When this is done, the plate is polished, and then the enamel, which consists of powdered glass mixed with a little water, is laid on by means of a spatula. A cloth is then gently passed over it to dry it, and the plate is placed in the furnace. We will here quote Mons. Popelin's own words, to describe the sort of oven required:—"The oven is composed of three principal compartments, placed one over the other, but each one quite

* At this very time Mons. Claudius Popelin has, no doubt, completed and published a charming work called "L'Art de l'Émail des Peintres," which both in text and illustration will furnish the amateur with advice, clearly stated in an excellent literary style.

independent of the other: these are the laboratory, the dome or conical cover, and the chimney."

The laboratory A is a rectangular vessel, with a semicircular aperture in front; a door P, also in clay, with a perpendicular handle; a projecting horizontal tablet D, little more than two inches thick, but



AN ENAMELLER'S OVEN.

(Taken from Mons. Claudius Popelin's "L'Art de l'Émail des Peintres.")

extending the whole width of the laboratory, on which the earthen door rests; beneath is I, the place for the reception of cinders, in which there is an opening, which may be closed by a movable button, to regulate the current of air; a grate of clay z, pierced like a skimmer, is placed inside the oven immediately above the cinder-

box, and a stopper to fit it is placed on the perforated plate. This compartment contains the fuel which, when set alight, quickly burns up, owing to the draught from the two circular air-holes situated at the sides of the oven. The chimney C needs no explanation. The dome or conical ceiling B, which is the receptacle for the enamel, is simply a trapezoidal roof, without a base, perforated with holes at the top. It fits on to the laboratory, which it exactly resembles externally. The stand on which the enamel is placed is introduced by the door. The numbers 5 and 9 answer to the tongs and poker, the use of which is well known; No. 10 is a kind of iron pincher, or scissors, made flat, which are used to take hold of the plates 1 and 2 when in the oven and hot. These plates are of thin hard earth, on which the plate of enamel is placed.

It is curious to see the enamel turn red after it has been in the oven a few minutes, melt, and spread itself in a liquid state, like a stick of barley sugar. The ancients made use of charcoal for fuel; now we use coke for this purpose. This yields a heat which is very painful to the skin, face, hands, and eyes of him who watches the progress of his work and the different phases under which it passes into operation. The dust, of which this furnace is full, sometimes falls on the plate, which is then of a brilliant red colour, but are of no real consequence, and are obliterated in the course of baking.

When the plate is taken out, it is evident that it has become one with the enamel placed upon it, and which firmly adheres to it. If it be found not to be perfectly smooth on the surface, it is subjected to a second baking.

This operation of the first baking applies generally to that outer coating of enamel which covers the reverse side of the plate or portrait in progress. This coating in general consists of what remains unused from a previous work, odds and ends of refuse, but for more delicate parts the melting or colourless enamel is used, which, from its transparency, renders visible the rich warm colour of the metal. This question of the rougher enamel used in this manner, though unimportant of itself, is of great importance from a historical and critical point of view. In default of more positive information, it indicates certain proofs, and the hand of certain masters. Thus, the reverse side of the first painted enamels, made at Limoges, are streaked with a purplish brown, which was so thick as to prevent the possibility of

ascertaining how the plate is stamped, whether with the artist's monogram or with some other mark. Later on, these reverse sides were covered with a very thick greenish enamel; at a still later date transparent enamel came into general use.

Then the side to be painted is taken in hand.

The tone of the first layer is always dark: either lapis-lazuli blue, red, yellow, or violet, of the richest but darkest hue—so dark that it suggests the clear, fathomless depth of a lake—dark, but intensely pure.

It is on this mysterious surface that the artist sketches his design. With a brush he first lays one drop of enamel, opaque and white, slightly liquefied with oil, which, by means of a needle, he spreads quickly and uniformly; this requires great agility and quickness of hand, for the oil used quickly evaporates. This layer is destined to form the background of the picture, or the shadows of the face to be painted, as in the Sèvres céladon porcelains we have mentioned in our chapter on Ceramic Art. Other slighter drops than these are added to them when, in any part, a bright surface is required; this is also done where relief is wanted; for instance, when dealing with a profile, on the lobe of the chin, on the cheeks, the bones of the nose, the relief of the lips, the projections of the upper temples, or any shining lock of hair; in which case, the matter applied being thicker and thicker, it necessarily intercepts transparency more and more, so that, at last, the ground ceases altogether to be visible. The colouring enamels, which are each one less fusible than the last, are next applied, very much as the Venetian painters used their colours, that is to say, alternately, in layers of something like paste and coats of varnish. The gold is put on with a camel's hair brush, slightly imbued with tragacanth gum.

Gold, silver, and platina, are the metals which serve as a substratum for these spangle enamels (à paillon), which are nothing more than a very thin glass placed upon this brilliant plate of metal; as it in no way intercepts the light, it leaves the colour of the metal visible, while it adds to it a slightly softened and subdued tone. These spangle or foil enamels produce the most admirable decorative effect. They have a more dazzling and glittering effect than the coloured glass of Venice, or even than precious stones themselves: as compared with these enamels, emeralds, sapphires, and rubies, although in colour infinitely

purer, are heavier, and have a sort of sleeping and imperturbable dignity.

We have just stated that all kinds of metal, and even glass itself, was a fit substance to serve as a substratum to the enameller. The

MIRROR CASE OF ENAMELLED CRYSTAL.
(In the Baroness James de Rothschild's collection.)

Renaissance, with its characteristic refinement and taste, used crystal for that purpose. By means of this it produced a veritable cloisonné enamel, which term they employed to designate that special kind of jewellery; for it was applied, as shown by the crystal mirror case now in the collection of Madame James de Rothschild, chiefly for articles

of small dimensions. The difficulties which this style of workmanship presented were infinite.

First of all, leaves, birds, or grotesque figures were engraved, or rather scooped out, so as to be hollow; then a sheet of very thin leaf-gold was introduced so as to form a thin lining to the deeper parts and the edges; the intervening parts were then filled in with very slightly-coloured pastes, so that the gold still showed round the edges; after the baking, during which the work was exposed to a thousand mischances, the whole surface was highly polished, after which the gold shone out, forming an outline to the different colours, and making the pattern look like the finest lacework.

The working palette of an enamel painter is extremely rich in colours. Metallic oxides readily lend themselves to an infinite number of combinations with glass. The opaque enamels contain oxide of tin. The green, blue, turquoise, red, pearl-grey, blue-grey, orange, aqua-marine, and yellow, are attainable either pure or else compound, so as to form shades as gradual as the notes of a chromatic scale. The light red colour is called in ancient works on the subject "le chef et le parangon," the head of all. It was discovered, according to Benvenuto Cellini's account, by a goldsmith who studied alchemy, and who one day found it at the bottom of his crucible, in trying to make gold.

Unfortunately all these kinds of glass are not equally fusible. It is therefore necessary that the artist should be thoroughly acquainted with the precise degree of temperature that each one of them will stand, without melting one more than the other, and so running into one another. When this knowledge is acquired, he places the very hardest ones first, the hard ones next, and so on, until he comes to the least hard among them. The same plate of enamel may be subjected to the baking process as often as twenty times. How many risks are run in so doing, were it only with regard to the plate which serves merely as the basis of the work, and which, as in a case we once witnessed, lost its shape and substance when it had reached the eighteenth baking?

Those enamels which only require a lesser heat are termed "porcelain enamels." These are generally used in modern jewellery. In the eighteenth century it was used for the decoration of chatelaines, the watch, the hook for it, as worn in those days, with the key, charms, and scent bottle attached. They are made with far less risk, and

may be worked on a much larger and wider surface; on them one may retouch his work slightly, thus enabling him to double the number of colours used, but, on the other hand, the result is less powerful in its effect. The use of this kind of enamel has never been laid aside, while the use of great-heat enamels has only of late years been resumed at Sèvres and in private workshops; only latterly have the imitations of those noble enamels of Limoges, of which we have spoken lengthily already, been attempted and successfully carried out. At the best of times, however, it is a bastard process, which may produce happy results, but which depends more on the patience of the artisan than on the talent of the artist.

WATCH, HOOK, SEAL, AND KEY OF ENAMELLED GOLD.

(In the Louis XVI. style.)

Still more has been attempted; enamel has been imitated with a kind of varnish, which may be scratched off with the finger-nail; and thus are decorated most of the innumerable so-called Persian or Turkish articles sold by those itinerants, fellow-countrymen of ours, who, with stuffed calves, puffed-out turbans, and ill-painted faces, used to offer dates and figs for sale at the doorways of our houses.

We believe this to be the very same enamel that the Chinese use to decorate, chiefly in light tints, tea-pots and tea-cups, trays, and even vases of considerable dimensions. There is a peculiar charm about these pictures of quaint design, which they paint upon those polished surfaces, which have a warmer and mellower aspect than that of our porcelain.

The action of these two friends, seated together before a country landscape, explains itself. The little tray which is the fellow to it, both of them in our possession, represents two young women seated at a balcony which overlooks a valley surrounded with blue mountains; one of the women is playing the flute, while the other appears to be

singing some melancholy verses of the poet Li-tai-pé:—"The rooks are assembled to pass the night: they fly and chatter above the trees; they call to each other, and perch in the branches. The warrior's wife sits at her frame weaving brocaded silk; the cry of the rooks reaches her through the blinds, which the last rays of the setting sun are lighting up with glittering fire. She stops her spindle, thinks of him for whom she waits, and is much discouraged. Then she repairs in silence to her solitary couch, and her tears fall quietly like a summer shower." *

The application of enamel to the photographic process, and of

CHINESE CUP AND TRAY.
(Painted enamel.)

photography to enamel, has been attempted. We have all seen those photographs of portraits, stuck upon a plate of porcelain, and baked in the oven as if they were actual bits of porcelain. This is the most durable form that photography, hitherto so transient in its nature, has

* The Marquis d'Hervey St. Denys, who is himself the able translator of this song, the name of which is "The Cry of the Rooks at Nightfall," remarks that in China the cawing of rooks is an emblem of conjugal union interrupted and saddened by the temporary separation of the married pair.

attained. To immortalize these portraits, and hand over to posterity a faithful and unerring representation of particular landscapes—to transmit, as it were, the view itself—is to solve one of the most interesting problems of philosophy. The substitution of colouring powder, that is to say, of pounded coloured glass, for that brownish monotonous hue, which in photography is unavoidable, has been tried, not without some success. We have seen some very small plates of it, which the jewellers insert into watch cases, and the setting of brooches in the style of the eighteenth century, which may well puzzle the most expert of amateurs.

This is an important commercial opening. But the real importance of this discovery, of which Mons. Lafon de Camarsac has made the most intelligent experiments with the best success, is the almost everlasting durability of these portraits. Beauty walking thus arm in arm with art, we can only wish that the portraits of all the notable men of our time—artists, politicians, literary men, and men of scientific attainments, &c. &c., might be photographed and then enamelled, and officially collected and preserved. These would be a source of the most interesting historical record in after generations.

But if the enameller's art is destined in our day to make such vigorous strides in improvement, it must be on one condition; which is, that it be cultivated by real and original artists, and not by spurious imitators. Whatever a copyist may effect, he can be no more than a clever workman; to praise him then would be only to applaud a commercial fact. Enamel has a higher aim. In its faithful transcription of a portrait—and Léonard Limosin and some of his pupils have amply demonstrated what elevated style it may attain—it satisfies the desire of the human heart, which is most seldom complied with, namely, that of possessing a comparative earthly immortality. Beside a museum of photography, for the creation of which we are now pleading, should be placed the gallery of portraits we have above suggested—portraits not merely of the features but of the heart; bearing the stamp of the character and soul, rendered on enamel by the hand of artists of merit and eminence. We should then see the philosopher himself come and study this unalterable gallery; for as Théophile Gautier once wrote in a precious sonnet to a contemporaneous enameller:—

"... ..... l'émail
Tel que l'ambre en son or tient la fleur enchâssée,
Contre les ans vaincus abrite son travail."

LABOUR TRIUMPHANT.

(Modern enamel executed by M. Claudius Popelin)

These verses were addressed to Monsieur Claudius Popelin. If the re-invention of the enameller's art, the practice of which is neither very profound nor very difficult, is not due to him, at least it was he who re-invested it with honour and renown by restoring to it its original object, namely, that of carrying out the thoughts of an artist instead of merely serving as an instrument to a common-place translator. The works of Monsieur Claudius Popelin have been justly regarded and applauded by honest and delicate critics, at the late public exhibitions.

Hard-working and accomplished, he has grouped in vast compositions the portraits of poets, sages, and great masters; he has bound them together with a general tie, the cultivation of letters and the triumph of truth; he has varied the monotony of a series of profiles by relieving their effect with bows of ribbon, inscriptions of scrolls, branches of laurel, and figures of children. This year the naked figure of Truth, which he painted on a blue ground, was at once a drawing of excellent taste and a masterpiece of fabrication. But we repeat, however admirably patricians may execute copies, Monsieur Popelin has over them the advantage of creating compositions for himself, thereby showing a talent and merit vastly superior to theirs.

These modern enamels have been put to a very ingenious use by applying them to the outside binding of books. Here we see the form of a woman with helmet on and coat of mail, standing erect, lance in hand, in a defiant attitude, her figure standing boldly out on a purple ground. There we see the word *Iliad* in letters of gold, surrounded by a wreath of laurel in bright green enamel. Here is a figure of Horace smiling, while Théocritus plays the shepherd's flute; there a poet, descendant from the Tchang dynasty, is elaborately painting an "Ode to Tea," on a sheet of rice paper, or Shakespeare reciting the prologue of Hamlet. . . .

But the true destination of enamel, if we are to understand by true that which ministers best to the wants of modern life, is decoration. Enamel is but the culminating point, the acme and perfection of Ceramic Art. Where the latter has been compelled to stop short, on the frontage of houses or on the sideboards of a dining-room, the former has outstepped it, forcing open the door of the ladies' boudoir or the lock of her jewel-case, taking the poet's study by storm, and ascending the steps of church altars. Nothing so well as enamel

adds softness as well as warmth of colour, soberness, and delicacy of tint to the sides of a box or the doors of a book-case. It was with this view that the Renaissance made use of it, as is proved by the draft and backgammon boards by Léonard Limosin, which we have already had occasion to mention, and which are now in the Louvre collection. The "Dream of Polyphilus" is a charming example of it, present at least in the palaces which the refined and sensual imagination of the unknown one, who dreamt and wrote that curious book, created: "Just above the Queen's throne was the portrait of a smooth-faced, handsome youth, with hair as fair and bright as gold; half his chest was concealed by a scarf, fastened on the shoulder; below was an eagle, with extended wings, holding a sprig of green laurel in its grasp; it raised its head to see his face, which was surrounded by an azure crown, whence darted seven rays, most perfectly worked and chiselled in gold and enamel."

All, therefore, that enamel now has to do is to follow the lead of the modern world. It ornamented the reliquaries and siper-altars at a time when church furniture was of all importance in the mind of the age. Later on, it produced the handsomest possible description of ware next to plates and dishes of embossed gold and silver. Later still, it has endowed women's ornaments and jewelery with an ever-varying charm and novelty of design. Now it must enter into the ornamentation of the furniture of palaces and great houses. It combines especially well with dark-red, black, or dark-brown, such as oak, ebony, and hard foreign woods, which modern good taste has consented to leave unvarnished. In the vast symphony which is called decoration, the part of enamel must surely be that of the violoncello, which marks the symphony and gives it signification and tone.

METALS.

BRONZE AND IRON.

The age of stone before the age of metal—Arms and utensils—India and the armour of its fabulous heroes—Its poniards—Its spikes for driving elephants—The Greeks at the siege of Troy—Agamemnon's equipment—The iron sword of the Romans—The three swords at the Musée des Souverains, and those of the Cabinet des Antiques—The sword in the period of the Renaissance—The swords of our modern Imperial Guard, and arms of State.

After weapons, coin—Greek and Roman coins—The medals of the Renaissance—What might be done in our day.

Casting of bronze among the Egyptians, Chinese, and Japanese—The process of casting by means of melted wax (cire perdue)—The medallion portrait of Armand Carrel, by David d'Angers—Mons. Barye's bronzes—The statuettes and works of art in Mons. His de la Salle's collection—Ornamentation in the eighteenth century—The brass ornaments and mountings in the Hertford collection—A furniture sale in the reign of Louis XVI.—Gouthières, the chiseller—A few of the prices realized at the sale of the Duc d'Aumont's cabinet in 1782—The tripod scent-box of the Hertford collection.

Iron, the symbol of work among the Western nations—Creuzot—The painter, François Bonhommé—The poetry of modern workmanship—The blacksmith and the locksmith in the Middle Ages, in France and in Flanders—Biscornette, Quentin Matsys, and Albert Dürer—The Renaissance—Androuet Ducerceau—The Château d'Anet—The seventeenth and eighteenth centuries—The iron gates of the new Parc Monceaux—The keys of Mons. Huby, junior—Zinc—Singular applications of Electroplate in art and industry—Conclusion.

BRONZE AND IRON.

Men took the trouble one day to examine some of the pebbles which they had trodden under foot unheeded and unobserved, and by that act carried the history of their earliest civilization through countless centuries back to remotest time. For those were the annals of humanity, which the plough turned over in the fields every autumn, like the leaves of a book. They were documents engraved and sculptured, contemporaneous with, and even anterior to, the convulsions of the globe, broken by the road-side by common stonebreakers. Grecian mythology was careful to commemorate its age of gold, its age of silver, and its age of iron; the age of stone alone was forgotten.

The Bible itself left a wide margin for the researches of attentive students. One of the great grandsons of Cain, Tubal Cain, son of Lamech and Zillah, is stated to have been the first maker of brass and iron implements. What, then, were the weapons with which his forefathers, when they left the Garden of Eden, repelled the attacks of monstrous beasts watching them in the forests or the marshes, on the river-banks, and in the jungles? How and with what did they hunt for game, or defend themselves from their fellow-men?

This plain question had occurred to no one, until the day when a more studious observation in Switzerland, Denmark, France, and wherever any serious interest became awakened on the subject, revealed the existence of a race of men who, in all probability, were ignorant of the use of metals. An antique race settled among the lakes and watercourses which then extended almost all over Europe;

living upon fish and shell-fish; and using implements for their various necessities which were cut out of hard stone or shaped flints, and even of crystal; such as their knives, needles, fishing-hooks, hatchets, and their lance-points and arrow-heads. The few uncertain traces that are left of the habitations of these nations are termed *lake-dwellings*. However primitive they seem to have been, the first dim ray of art must have penetrated there, for on some of the various things, together with little heaps of empty shells with which they used to decorate the doors of their cabins, have been found attempts at sketches of their ornaments and the profiles of animals.

It has even been ascertained by what method these primitive people made those hatchets, at one time believed to have been Gaulish or Celtic only, and which are of an incalculable antiquity. Mons. Troyon writes: "In the peaty deposit which exists at the bottom of the Swiss lakes, are found many of these articles, either left uncompleted or broken by some accident. The piece of stone destined to be made into a hatchet, was first rendered smaller by a process still unknown to us; the outline of the hatchet was then drawn out in a thin line by means of a pointed instrument. This line was gone over repeatedly, so as gradually to deepen it. The instrument must have been either of stone, or bone, and a hard sand, kept wetted for the purpose; when this line was sufficiently deep, the workman severed the article to be made from the main piece by a few sharp strokes, but these had to be very cautiously and carefully administered in order to secure the safety of the work already so far accomplished, and thus the hatchet took its original shape. It was afterwards finished off and polished, by means of a large rough stone, which did the work of a sharpening lathe."

Antlers of stags or branches of wood, bound together by leathern straps or a kind of rope of grass, sometimes formed the handles of these rough hatchets. The Polynesian tomahawks resemble them.

In short, the science of the stone age is still conjectural. Many of these supposed relics, found and treasured up, were probably freaks of nature or the result of accident. Spurious imitators have produced thousands of them. But in matters addressing the imagination, there is not much harm in being deceived; indeed, it is unkind wantonly to distress people who believe they know all about it. Last year a rumour went abroad that these bits of flint, so carefully collected by

archæologists on the plain of Pressigny-le-Grand, were but the remains of a gun-flint quarry!

These arms and primitive utensils, which from their brittle nature can hardly have resisted rough usage, blows, or friction, and which demonstrate the unwearied patience of savage tribes, were succeeded by the use of metal, but in its raw state collected in small fragments, some of the minutest of which have assumed huge proportions in the estimation of modern geologists. By degrees the bits of metal became rare on the surface; it was necessary to dig them out or search in the beds of torrents. At last some great conflagration suggested to man the fusibility of metals, and conveyed to him the idea of melting them by artificial means and then of mixing them together.

It is probable that the first tribes which emigrated, like one interminable flock of sheep, from the vast plains of India to Asia and Africa, met with gold before they found any other metal. The fable of Pactolus, whose waters threw up gold as other torrents do sand, has only become a fable in our day, after a series of generations had exhausted its treasures. No doubt the Ganges produced a similar quantity.

All Indian poems and legends indicate that gold was a part of the arms of their fabulous heroes; arms which cast from them as many glittering rays as they could inflict blows—a typical characteristic of the charming but cruel daggers of these voluptuous nations. In the "Râmâyana," a sacred poem we have already quoted, the arrows Rama uses in his gigantic bow decorated with gold, are headed with gold or chased, and flaming with gold; in their rapid flight through the air they are said to illumine it as with the light of celestial meteors; covered with eyes like the feathers of a peacock, they return of themselves to their quiver, after transpiercing demons. The club of Khara, Rama's giant enemy, is ornamented with circlets of gold. The war chariots are made of massive gold or silver. That of Khara, hung round with a hundred little tinkling bells, glittered with every description of precious stones; besides which the goldsmith had wrought on it representations of fishes, flowers, trees, mountains, the sun and moon, in gold, and numbers of flying birds, and stars in silver; the pole of the chariot is said to be set with pearls and lapis-lazuli, bearing upon it the figure of the Queen of Night.

India is, perhaps, of all countries, that which has endowed cruelty with the utmost grace. Its daggers, with short, sharp-pointed, cutting blades, make the most incurable wounds, entering the flesh without spilling a drop of blood, and making so slight an external wound that scarce a purple trace appears. The most marvellous collection of Oriental arms is in the possession of the Marquis of Hertford. They came, for the most part, from the collection of Prince Soltikoff, whose brother, Prince Alexis Soltikoff, tells us in his "Letters of an Indian Traveller," that he used to buy, and send for him to Europe, all that he deemed curious and could purchase. We know that the high price demanded by the Orientals for their implements of war is attributed as much to the supremely excellent quality of the steel of which the blade is made, as to the rubies, sapphires, pearls, and diamonds, the jade, and veined lapis-lazuli, enriching the handle; moreover, they are commonly heirlooms and precious family relics.

Among the daggers which the prince sent to his brother is one which a personal friend of ours has both examined and handled. It presents the most singular illusion of blood in its costly setting, for on the steel blade is engraved a hollow line, the sides of which being flattened form a frame for a number of small rubies, so that when the dagger is flourished about the stones glitter like drops of blood, as it were always limpid and fresh! From which Rajah, dispossessed and plundered by the English, and selling his thenceforth useless weapons to travelling collectors, came this quaint treasure?

All is perfect in Oriental armour—the intense degree of sharpness of its weapons, which renders it credible that a gauze scarf was cut in two by the flourish of a yataghan—the haft showing that the hand of the warrior could have been no larger than that of a child; the ornamentation so exquisitely damascened or nielloed that it resembles a bit of delicate gold lace; coats of mail finer in tissue, and lighter too, than the woollen shirt of one of our modern seamen; helmets which are but a skull cap of metal, leaving to the head its elegance and natural delicacy of outline; the almost feline suppleness of their pointed blades, light as a feather and covered with filigree designs and patterns; the shield made small and round so as not in any way to hinder the mounted warrior in his evolutions; the bent and graceful outline of the Mahommedan's sword, in shape like a moon's crescent.

In their hands, gold, steel, and iron became as malleable as the softest materials. Among the rarest as well as the most formidable implements which made their way into Europe, are the spikes used to drive the elephants either to the field of battle, or on the occasion of any state ceremony. At the exhibition of the *Union Centrale*, one was exposed in the glass cabinet of the Marquis of Hertford, which was surcharged with diamonds and precious stones; a little beyond it, in the cabinet of the Baroness Salomon de Rothschild, lay another of iron, chiselled and inlaid with gold of a portentous aspect; to the handle, which terminates in a lance shape, both sides of which are highly sharpened, is affixed the hook, in the form of a semicircle, and exceedingly strong and sharp. It is a notorious fact that elephants are subject to fits of giddiness—almost madness—which are utterly unforeseen; they suddenly become furious, overturning all that may lie in their path, be it battalions or crowds, no matter what or how great the obstacle; they can hear no remonstrance, for no human voice seems to affect them, so that the elephant-drivers' only resource for safety is to hit them a hard blow on a particular spot of the cranium which happens to be softer than the rest with this formidable weapon; it penetrates to the brain of the infuriated animal, who instantly falls to the ground insensible. This hook is a solid piece of iron, covered with ribands, pearls, and flowers of delicate and microscopic dimensions, also figures of tigers and elephants, chimeric figures and birds, statuettes of reclining gods and goddesses, chiselled ornaments of every description, inlaid and polished with almost ideal perfection. One elephant-hook must have occupied the whole lifetime of a man; it may have been the handiwork of some obscure genius, who doubtless had not even the honour of himself presenting his elaborate and glorious masterpiece to the hand destined to wield it.

In the East, metals are generally worked in their primitive condition and unmixed. The Greeks, and indeed all the ancients, worked with bronze, which is a mixture in infinitely variable proportions of copper and tin. In the Homeric ages, iron seems to have been reserved for agricultural purposes. Bronze is comparatively pliable. The swords of Homer's heroes must have been as supple as our fencing foils. This may account for the small quantity of blood spilt under the walls of Troy during a siege of ten years. The great combats of which Homer sings were then, except in the case of a general melée, little more

than duels of twos and threes, arising occasionally between the chieftains of the camp and the city. One would be led to imagine, too, judging from the abusive language they were wont to shower on each other in the heat of the fight, that the combats were arranged as in the melodramas of Pixérécourt, and that time was kept—one, two, three, four!—also with a fire of sparkles. The fact is, that when any one was grazed or hit, lamentations as great were made as the manager of a circus would utter if his Prussians, paid at two francs a night, were by accident to kill his Austrians outright.

Let the proverbial valour of these Homeric heroes be what it will—and we almost reproach ourselves for laughing at them even for an instant—their arms must have been of an infinitely more savage and more robust character than our eyes are wont to discern in them as represented in the paintings of the classical school. Agamemnon's helmet was adorned with four small bunches of plumes, and with a floating mane. This must have looked heroically barbarous, as also those bows made of the horns of wild goats. The description given us of the shield of Achilles, proves to us to what degree of luxury the Greeks brought their apparel—proving, too, the cleverness and ability of armour-makers, jewellers, and goldsmiths. Their breastplates of bronze, composed partly of copper, tin, gold, and silver, which shines almost like gold itself, and is of a gold colour, must have given them a dazzling appearance. When the famous Hector is starting with Paris for the battle, "he stretched forth his arm to his son; but the child shrunk back in the arms of its nurse; he was frightened at the aspect of his father, and trembled at the shining metal and quivering horsehair plume which he saw waving menacingly at the top of his helmet. His father smiled, and so did his august mother. Then Hector lifted off his helmet, and placed it glittering at his feet. . . ."

Greek armour must have been exquisite. The gods themselves fashioned and ornamented them. It was for this that Venus paid her visit to Vulcan. Their arms were the constant thought of the chiefs; no more costly or acceptable exchange of gifts could be made. "At dawn, Agamemnon girt himself about with sparkling and shining brass. First he encased his legs in bright greaves with silver clasps; then he clad himself in the coat of mail presented him long since by Cyniras, King of Cyprus, as a token of hospitality. For the great

rumour had reached Cyprus, that the Greeks were going to lay siege to Troy; on this occasion it was that this suit of armour was given. Ten bands of polished black metal, twelve of gold, and twenty of tin, traversed the suit; on either side the gorget were three dragons rampant, with their heads upturned, on an azure ground, looking like those rainbows which the son of Saturn has placed against the rain-cloud, and which are a forecast to men. From his shoulders his sword hung, glittering with gold nails, and the silver scabbard was slung to a belt of woven gold. He covered himself entirely with a shield, large, solid, artistically ornamented, and surrounded with two bands of brass; in the centre was a boss of black metal surrounded by twenty bosses in shining brass. Around this shield was the figure of a gorgon, with savage countenance and revengeful eye; Terror and Flight were near it; a silver baldrick was attached to it, on which was creeping the figure of a black dragon, that had three heads issuing from one neck. Then he placed on his head his crested helmet of the four plumes, with the horse-tail flowing from it. He armed himself with two tough, brass-pointed javelins, that shot rays to the sky. Then it was that Juno and Minerva thundered, to glorify the king of opulent Mycene. . . ."*

None of the relics of these Homeric arms have descended to us. The style and outline of these warriors is seen on a few bas-reliefs and old vases. These heroes, with their nasal helmets, their pointed beards, and almond-shaped eyes, terribly suggest the Assyrian and Oriental type. The helmets, breast-plates, and swords, which are in the possession of the Museum of Artillery and the Imperial Library, were chiefly found in the tombs of Campania, and are of a comparatively recent date. If any energetic amateur should be desirous of adopting a truly classical as well as an elegant head-dress, we would refer him to a helmet, presented by Mons. Albert de Luynes to the Cabinet of Antiques and Medallions, and which is in the shape of a Phrygian cap. One fancies the effeminate face of Paris under it.

The Roman armour is more robust. Art has had to give way to practical requirements. With them it is no longer a case of single combats or of prosperous marches against a neighbouring people, such

* "Iliad," Canto XI. What we before quoted respecting the departure of Hector is from Canto VI. Translated into French by Mons. Emile Pessonneaux.

as still go on between the tribes of Algeria. The object has become the conquest of the world, and that iron sword which Scipio had made in Spain for the use of his legion was the principal cause of the defeat of our ancestors, who had only bronze arms to fight with. When ambition rises to the conquest of all the known world, it must be sure of its arms; they must be strong, portable, and well contrived. Trajan's column shows the Roman soldier equipped for war. He is neither elegant nor brilliant in his attire. The breastplates of Augustus, of Marcus Aurelius, and of the Antonines, in antique statues, are only pieces of state furniture. It is simply the apotheosis garb for those nocturnal reviews of which the German poet speaks.

And how strange a caprice of destiny is here! This Roman sword, which achieved every conquest it attempted, which snapped asunder the thread-uniting principalities and powers, and spread a Latin spirit through two-thirds of Europe, just as, later on, the sword of Mohamed and his successors were near penetrating with the Koran even into the very centre of France, neither the tomb, the hidden riches of the battle-field, nor the beds of torrents, have preserved it unto our day; we know it not; rust has devoured it. The point of it is formed by a gradual decrease in the blade from about two-thirds of its length. The blade, which has two sharp edges, has none of the studied, curving, soft, and defiant forms of the Greek sword. It is hardly better worth looking at than the plain blade of our foot regiments. The handle was of ivory, horn, or wood, but without cross-bar or guard of any sort. It was worn on the right side, in a wooden or iron sheath covered with leather, and bound round with bronze, fastened to the shoulder-strap and belt with four rings. It was evidently destined for single combat, partaking chiefly of the nature of a knife or dagger, like the Arab's yataghan.

Paul de Saint Victor writes: "Of all the offensive arms, the sword is the grandest and the most noble, typical as it is of dominion and power. In all times the sword has been the warrior's weapon, inseparable from him; one can as little realize him without it as a lion without claws, or an eagle without talons. In the tongue of the Middle Ages it is a living thing. It was baptized with all the ceremony of the Christian that it was. Charlemagne's sword was called "Joyeuse;" that of Roland, "Durandal;" that of Olivier, "Haute Claire;" and Renaud's, "Flambeau."

Sometimes it was a fairy, and she, by her magic virtues, destroyed the nets which the necromancers laid in the way of belated horsemen. Tasso and Ariosto are full of these wicked schemes. "Who knows," said Don Quixote to Sancho Panza, as they journeyed together between a piece of enchantment on the one hand and a violent cudgelling on the other—"who knows but that fortune will bestow on me the sword which Amadis wore when he was called the 'Knight of the Flaming Sword?'" It was one of the best blades a cavalier ever possessed, for, besides the quality it had of shielding its owner from every description of sorcery, it cut like a razor, so that no armour, however strong or enchanted it might be, could resist it. "These arms are only bestowed upon knights," replies Sancho; "squires may go hang."

The *Musée des Souverains*, at the Louvre, possesses three historical swords, which, by their shape and style of ornamentation, almost without your knowing what royal hand wielded them, reveal three distinct dates of the history of France, as well as the condition of industrial arts at three different periods. The first is that of Childeric I., son of Mérovée and father of Clovis, who died in 481. Its thick and almost clumsy shape reminds one of the Roman sword. It was found in a tomb at Tournay, which then did not as yet belong to France, on the 27th of May, 1653, together with some bees, remnants no doubt of some royal vestment; a ball of crystal and Childeric's seal. This seal, as by a kind of play of words, was the key-note which certified the authenticity of this handful of dust, once a king of France, as it had, many ages previously, certified with its stamp the authenticity of the royal signature. The Elector of Saxony presented this sword to Louis XIV., in 1665, by the hand of the Emperor of Austria; from Versailles it passed into the *Cabinet des Médailles et des Antiques*, and thence it went to the *Musée des Souverains*, where it is the first in chronological order of the royal arms now extant. The pommel of it is finished by an eagle's head, as may be seen in the wonderful aqua-fortis engraving of M. Jules Jacquemart, for M. Barbet de Jouy's book, "*Les Gemmes et Joyaux de la Couronne;*" it is a proposed restitution by this artist which had hitherto escaped the shrewd eye of antiquaries.

Charlemagne's sword is not so well authenticated, besides which it was partially restored for the coronation of Napoleon I.

The third, however, is one of the gallant, hard-fighting blades of Pavia, the same which Francis I. gave up:

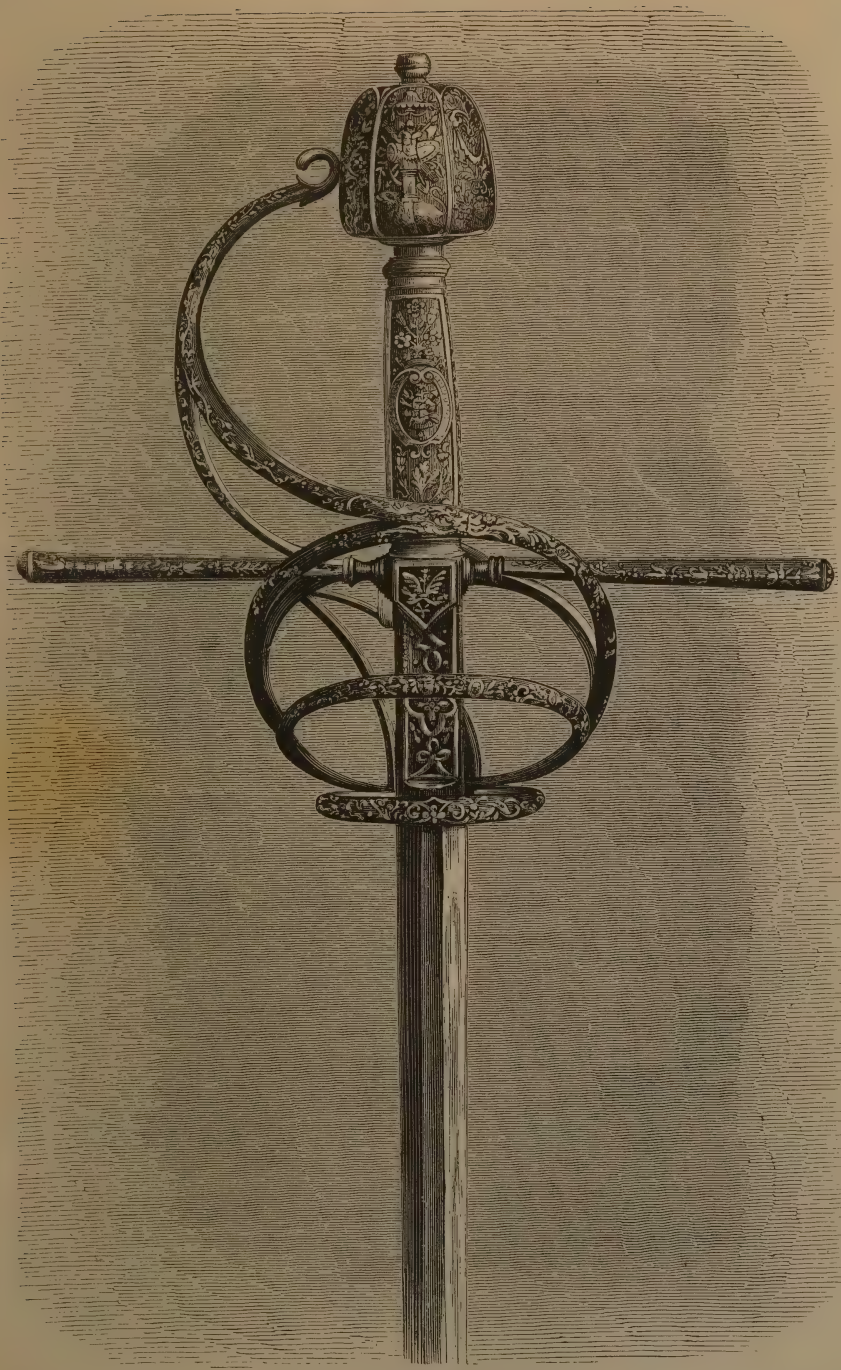
> "L'homme de Marignan, lui qui, toute une nuit,
> Poussa les bataillons l'un sur l'autre à grand bruit,
> Et qui, quand le jour vint, les mains de sang trempées,
> N'avait plus qu'un tronçon de trois grandes épées!" *

The blade was so evidently not the original one, when it reached Madrid, that another was fitted to it which was about a hundred years older. The handle, which is of chiselled gold enamelled in the most exquisite taste, has retained the traces of heavy blows, glorious and eloquent heralds of battle.

Besides what has been transferred to the *Musée des Souverains* and the *Musée d'Artillerie*, the *Cabinet des Antiques et des Médailles* still possesses two historical swords of great value: that of the unhappy Boabdil, presented by the Duke Albert de Luynes, and that of Jean de la Valette, given him by Philip II. as a reward for his courage and valour at the siege of Rhodes. When Bonaparte stopped at Malta, on his way to Egypt, the Order conferred on him the dagger; but when the Order was dissolved, Napoleon claimed the sword, which was accordingly handed to him, and which he placed in the *Cabinet des Médailles*.

The sword is the only weapon of antiquity we have continued to use. For who knows how long our modern breastplates and steel helmets will be able to resist the fire of the needle-gun, itself only a forerunner of still more terrible engines? Our museums, as well as our private collections, have assembled specimens of swords of every country and of every shape. It would be interesting to trace the sword through successive ages; it clings by its natural function chiefly to the battle pages of history; to the artistic page by its guard and pommel, and by the shape and style of its scabbard and belt; while the greater or less fineness of the blade makes it an illustration of industrial progress. For centuries it has been the warrior's companion, in skirmishes as in palaces. To give it up was to surrender one's honour, almost to die civilly by admitting oneself beaten. If it touched a plebeian shoulder it at once bestowed on it the title of nobility, just as a fairy wand could change a pebble into a lump of gold. In

* Victor Hugo.



ITALIAN SWORD OF THE SIXTEENTH CENTURY.

(Damascened with gold and silver. In the Marquis of Saint-Seine's Collection.)

the fifteenth and sixteenth centuries it was the staunchest friend of man, who, out of gratitude, had it cast by the cleverest blacksmith, and ornamented by the ablest and most celebrated artists of his time. Albert Dürer engraved, on the pommel of Maximilian's sword, a crucifix, which is now among the most valuable of his works. Shortly we shall see Benvenuto at work, with all the jewellers and goldsmiths of his time ornamenting and chiselling swords and daggers.

"In the fifteenth century," writes M. Edouard de Beaumont, in reference to the rich collection lent by the Emperor to the *Union Centrale*, "the sword, always imposing and sumptuous, allied to the reactive tendency of war and the arts, suddenly modified itself both in spirit and in its dimensions. In the face of the arquebuse it became less ponderous and sharper; the two branches of its cross lose the rigidity of their outline, and gradually round themselves in the direction of the blade." From the date of the French Renaissance, and since the time of Francis I., the sword was made infinitely more thin and dainty, and proportionately less terrible. It has been cleverly and ingeniously remarked that ever since 1510, or thereabouts, it turns its point downwards; that is to say, that whereas, previous to that date, the ornaments upon it were so disposed as to be looked at with the point of the blade upwards, subsequently it is only decorated with a view to inverted examination.

The marks and signs of the most celebrated armour makers of Toledo and Seville are well known. Julien del Rey, who worked at Toledo and Saragossa, marked his blades with a crescent, or a head either of a goat or a wolf. The process of tempering steel is less known; that is to say, certain manipulations which in these matters make the transition from superlative excellence to mediocrity very rapid, have only been transmitted to us surrounded with suspicious fables.

Nothing is nobler than collections of arms. That of the Count of Nieuwerkerke contains valuable specimens. But there are certain swords in the possession of the Marquis of Saint-Seine which are unsurpassed. One of these, a black and austere weapon, suggests sinister duels. Another, on the contrary, whose guard is composed of intertwinings as supple as those of a vine-sprig slightly detached from its mother vine, is nielloed on silver. The Italian sword opposite

belonged no doubt to some grand nobleman of refined and delicate taste, doubtless the friend of poets and artists. The three pointed mountains, the representation of which is often repeated in the ornamentation, seem to indicate that it was made for some member of the Albani family; it bears the coronet of a marquis. The Albani, besides the three pointed mountains, bore on their shield *argent.*, on a band *or.* a star in chief.

MILANESE DAGGER OF CHISELLED IRON. (Collection of the Marquis of Saint-Seine.)

If we knew nothing of the ferocity and cold corruption of the times, it would be pleasant to believe that these graceful and powerful swords, which so highly adorn the already wealthy cabinet of M. de Saint-Seine, were drawn from their sheath only to avenge the wrongs of orphans, protect a princess, or smite a tyrant.

But it is as well to bear in mind that the rapier was the weapon of the duel; its guard has a half spherical shell, pierced all over with holes to catch the sharp point of the adversary's weapon. The rapier possessed, as it were, an assistant, a valet, whose business was to receive the hardest blows, as well as to finish off the conquered enemy, and that was the dagger. The chief aim of amateurs is to discover the rapier and its fellow, the dagger, which was called "the left hand," and which, cast from the self-same piece of iron, was chiselled and enamelled by the hand of the same artist. It was held point foremost, the guard being underneath. The daggers associated with the swords of the M. de Saint-Seine's collection are so valuable that some one once remarked to us: "If an offer was made to

leave me this sword and its dagger, after running my body through with them, I think I should be tempted to accept the terms!"

Under Louis XIV., Louis XV., and Louis XVI., the sword, which we have taken as the type of all weapons, because it symbolizes, in the suppleness and strength of its blade, both attack and defence, was used only as a drawing-room weapon. Our day, in restoring it to certain dresses of high pomp and ceremony, has introduced again the art of making the handles of cut steel. The Senatorial swords, those of the State Council, &c. &c., are executed with much taste and merit. They have only the drawback of being modern.

Who ever thinks of examining the sword of the officers of the Imperial Body Guard? And yet it would be found to be a masterpiece of proportion and delicate execution: the blade is triangular, as strong as a bayonet, handy, supple, and light. These weapons are furnished by commerce, whereas the bayonet-swords of the foot regiments, of the marine infantry, and of most of the cavalry, came from the factory of Chatellerault.

At the London Exhibition of 1862, the sword of General Bosquet was on view, chiselled in gold and silver by Duponchel; the Duke of Magenta's sword, of silver-gilt and fine stones, chiselled at M. Wiese's by M. Honoré; the swords of the Duke of Malakoff and of Admiral Bruat, worked with oxidized silver by Delacourt. The weapons of other nations, either warlike or ceremonial, in no way approached the French in artistic merit, who bowed only before the incomparable productions of India.

Notwithstanding the rapid progress made by science, the diffusion of philosophy, and the daily closer connection of commercial relations, it is not likely that, for some time to come, humanity will fling on the altar of peace the shattered fragments of the last sword. Would that a sword were oftener given as a national recompense! A sword of honour is, in most cases, more suitable than the erection of a marble statue, to celebrate some person of second-rate merit, whose name will be spelt with astonishment by the rising generation. There is scarcely a small country town which, having been the birthplace of a soldier of any note, does not think of erecting a bronze representation of him, in his top-boots and cocked hat. Would it not be far more appropriate to present his surviving relatives with a sword that could be transferred to the elder branches of the family, from generation to genera-

tion, as an honourable heirloom? Some such offerings, good specimens of workmanship, were made to the Comte de Paris and to General Changarnier, and others. Allegorical figures, symbolical of the deeds for which they were presented, were carved on the handles, while the blade was engraved with inscriptions, intended to perpetuate either hope or remembrance, fitted to be laid on a cradle or a tomb.

If the first use man made of metal was exclusively for hunting or fighting, it was with a view to commercial intercourse that he next employed it. After the sword came the manufacture of coin, just as the merchant follows at the heels of the captain. But this idea flourished only when some connection had begun to exist between divers nations. During the siege of Troy, fatted heifers were still exchanged for skins full of wine or amphoræ of oil. Thirty bullocks' hides was the price of a slave. But in time this brutal barter of natural produce, in becoming more general, waxed also more and more complicated, until it was found to be almost impracticable. The next step was the exchange of a piece of worsted, dyed scarlet, for a lump of metal, which was weighed, and hastily engraved with a few imperfect signs. Even now, on the African Coast, negroes will give an elephant's tooth or a pinch of gold dust in exchange for brandy, iron, or cotton print.

We are still far from knowing the first coin made, for, since the Renaissance, Greece and Italy have so tyrannically absorbed the attention of artists and men of erudition, that a search in the East has only been treated as a secondary object. The oldest bronze coins extant are large and clumsy, with figures of domestic or sacred animals indistinctly stamped upon them. They must have represented a considerable value, for a man would have been bent double with the weight of less than a hundred of them.

Nothing can equal the beauty of the Greek gold and silver coins. We know that those coins which are arranged so carefully in collectors' medal cases, were current coin, and that the Middle Ages and the Renaissance were the first to stamp medals. Hardly one of those Greek artists who displayed so much genius on a small bit of metal has signed it. The letters upon them generally designate the name of a town or magistrate, and that, not unfrequently, with a play of words, such as a "rose" for the island of "Rhodes."

Each piece contains but one profile, that of the personification of

some town or the portrait of the prince of it, such as Athens' sacred owl, or Alexander, as the horned son of Jupiter Ammon.

But what a display of nobility and strength! what relief—what life, in these profiles—in these speaking attributes! what an inexhaustible variety of types! There are fifteen or twenty different Syracusan coins: all representing the head of a young girl, and in the field are one or more raised figures of dolphins, long and thin. We cannot but think that the prettiest girls of Sicily must have been copied successively, for they not only offer a variety of feature, but an entire difference of character and even temperament: the dark beauty is there, with large tender eyes, aquiline nose, and dilated nostril; the fair one, plump and languid, with rounded cheeks and full lips, which suggest the presence of clear, red blood under a thin and delicately fair skin. The details of head-dress are infinitely varied in these admirable coins, to which the attention is invariably drawn, even after the contemplation of other coins, as great in interest, and almost of equal elegance and quaint simplicity.

Roman coins are also remarkably fine—those, at least, which go back as far as the Antonines, after the Republic, namely, the large and rare medallions of the emperors. Although they were probably designed and engraved by Greek artists, these coins keep more closely to one particular type, and furnish us with a far greater similarity of feature. That scrupulously copied resemblance is the cause of the rarity of existing imperial effigies. When some prætorian revolution had installed a new sovereign, his first jealous act was to call in and melt down the effigies of his predecessor, in the hope, no doubt, of evading invidious comparisons. Tyranny comports itself according to its traditions. Thus, the Egyptian dynasties, which overturned one another, caused the noses of antecedent Pharaohs to be hammered out, and their names erased.

The decisive characteristic of antique coins, is found, besides the harmony of its design, in the great material thickness of the relief. Let the reader pass in review the different pieces of money which were current in France only a few years ago, before the general new minting took place; all the sous, the pence, half-pence, and farthings (liards), and other bits of money, red or whitish, had lost their stamp on either side, presenting only a circular bit of copper which one might imagine to have been stamped out of the bottom of a

saucepan. And here and there, perchance, some tobacconist or omnibus driver would hand you, in giving you change, some coin, the relief on which would be astounding to the touch of the finger. It was a Roman as: a figure of Augustus, sober-featured and refined; or a Nero with knitted, overhanging brow, and shrivelled nose, and with a projecting chin; an Antoninus, with open countenance and affable expression; a Lucius Severus, with curled head and beard; a head of Marcus Aurelius, with his high and projecting forehead; a long-necked Faustina, with hair gathered up in long braids; or the face of some emperor of the lower empire, lean as an Arab, capped with a crown of radiating points, rude and quaint, of a savage and anxious expression. . . . These pieces were rubbed and worn; they had lain in the earth, or stuck in walls, or in the beds of rivers, for the space of sixteen or eighteen centuries; the hands and pockets of generations had handled and shaken them, and yet neither time nor use could wear them down to the common and vulgar aspect of the coin of modern times. Coin was the bronze edition of Ceramic art and of sculpture. These pieces of money, which bear the nervous and obstinate profile of Cæsar, reveal his characteristics almost as plainly as the above bronze statuette, where he stands erect and crowned with laurel to cover his precocious baldness, his cloak thrown back, half a captain and half a god, haranguing his troops and urging them forward with the prospect of conquering the world and uniting it under one empire. If we did not possess the marbles of the Parthenon—which, by a marvellous piece of good fortune, chanced to be the masterpieces of Greece—the different specimens of coin would suffice to convince us of the entire supremacy of the Greek arts in the representation of the human face.

The thickness of the substance which preserved the lines of the visage, and the character of the design, helped, therefore, to endow the ancient coinage with its imposing grandeur. True, it was not made with a view to being piled up as ours is. They were struck with hammers, in movable dies; a primitive method unsuitable in our days. The exact similarity required between our coins of various sizes, the indispensable dryness of the outline in relief, which for some time retards the obliteration of the sovereign's profile, or the emblems presented on the reverse—all these are the work of the machine—a series of practical, neat, and rapid strokes, in which Art has no place,

CÆSAR HARANGUING THE TROOPS.

(Roman statuette in bronze. In Mons. Luzarche's Collection.)

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but which we are forced to accept. But this method of stamping might be used for medals cast and engraved to perpetuate the memory of particular great military or political, scientific or artistic, events. On certain solemn occasions they might be cast *à cire perdue.*

The medals of Briot, Dupré, and Jean Warin, our greatest medal-

THE DOGE MARCUS ANTONIUS MEMMO.
(Medal of the sixteenth century. Cast in bronze by Dupré.)

lists, were cast, but on a much thicker basis than those of the present day.

The artists of the Italian Renaissance, intensely taken up as they were even as early as the fourteenth and fifteenth centuries, with any vestige of antiques which sprang from the dust, as if to protest against the profanation they had undergone, used to make casts in bronze (which they afterwards engraved with the most consummate skill) of

medallions they modelled in wax from their contemporaries, and often, also, from original antiques.

The list would be a long one were we to enumerate the artists and sculptors who have left behind them testimonies of their excellent taste and thorough scientific knowledge of their profession. It would begin with Vittore Pisano, of Verona (who died in 1451, and signed his medals *Pisani pictoris opus*—the work of the painter). From Verona it would also borrow the names of Matteo Pasti, and Giulio della Torre; from Venice, that of Gentile Bellini; from Padua, those of Andrea Riccio and Giovanni Cavino; from Bologna, Francia, and Caradosso from Parma. But we shall again meet with nearly all these illustrious names when we quote the pen of Benvenuto Cellini.

VASE FOR SACRED PURPOSES, OF CHINESE BRONZE.
(In the Duchess de Morny's collection.)

The casting of objects of art has been interesting in all ages; from the period of the first Egyptian dynasties, which carried it to a high degree of perfection—a fact which is well-established by the statuettes of divinities which we borrow from the collection of Prince Napoleon—until the present day, when new materials have necessarily caused other and more summary methods to be employed. We shall see in the Memoirs of Cellini the mode of procedure for the casting of a large statue; but the general aim of this work does not admit of our pausing, at least for the present, before statuary, just as in our review of armour we were compelled to take the sword as an illustration for all descriptions of weapons.

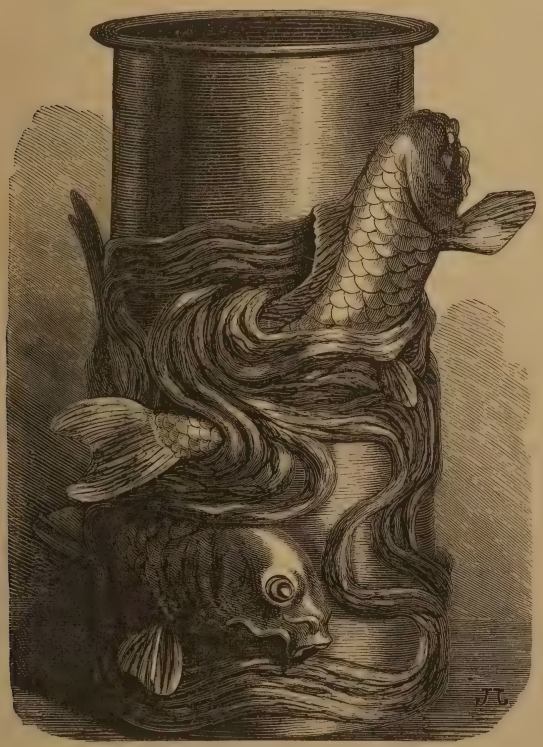
Artistic bronzes of small dimensions are almost always modelled in wax, and then cast. This rule does not apply without exception among the Western nations, but invariably is it the case in the East, China, and Japan. The accompanying articles form a part of the Duc de Morny's collection; they are of

EGYPTIAN BRONZE SEATED FIGURE OF OSIRIS.

EGYPTIAN BRONZE OF THE BULL APIS.

(Collection of Prince Napoleon.)

very antique fabrication. The little sacred vase, with its accessories, is inlaid with consummate art, and made in imitation of the Japanese "Sowaas." It is, however, of more recent date than this straight-sided urn, or "pi-thong," on the stem of which are carps swimming and slipping in and out of waves: the representation of the scales and mere shining portions is as simple and bold as antique objects of more



ANTIQUE VASE OF CHINESE BRONZE.
(In the Duchess de Morny's collection.)

civilized periods; the detail of the dorsal fins, which, with a slight curve form the handle of the vase, display extraordinary ingenuity. This vase is covered with a blackish patina which gives it an incredible richness of aspect. It seems to be carved out of a bit of solid rock.

The Japanese bronzes are chiefly distinguishable from the Chinese

by a much greater specific lightness. Some of them cause to the hand the most singular illusion; in first taking them up the hand is prepared to lift a bit of metal, which it finds to be as light as glass. In their bronzes the Japanese have proved themselves to be the most able as well as the most intelligent of all modellers. Nearly all their finer works are modelled first in wax, which wax is handled in so masterly a manner, and so daintily and minutely worked by the modelling tool, that objects which are comparatively common, such as baskets or night-light stands, are marvels of truthful reproduction. The few articles contained in our illustration are samples of their inexhaustible fancy, and their sincere love of nature. With what elegance does this stork stretch its long neck to hold a branch in its bill, and yet it represents but a vulgar candlestick! And that long-spouted vase which recalls, though with less slimness of outline, those Persian ewers, has its sides enamelled with flowers and fruits.

This tortoise which puts out its cautious head, and seems to be unwontedly hurrying the pace of its scaly feet as if to compete with and defy the pensive cow, which bears on its back a studious monk lost in meditation over his book—it is a hollow perfume-burner which, strange to say, is signed with the name of its maker. The scented fumes ascend in a blue spiral jet from a hole at the extremity of the beak. There are, too, some figures of dragons, whose furious contortions make one shudder, and almost induce one to believe them to be actually alive.

But it is high time that we enlightened our readers as to this process of casting from wax models.* The view we will here take of it is only relative to its final result; the different processes for casting, though simple in appearance, are complicated by a variety of details which we cannot here specify, and which are encumbered with technical terms; besides this, they have naturally varied with the scene of their adoption —with the people, time, and circumstances where, and under which, they were practised.

It must first be decided whether the bronze is to be full or hollow. If full, the operation is simpler, and the sculptor models his subject entirely in wax. But if it is to be hollow, then he begins by making a nucleus—as it were the unseen soul of the piece—a massive substance made of a very thin clay, very finely broken up and pounded, a

* Fonte à cire perdue.

EWER, CANDLESTICK, PERFUME-BURNER, AND TORTOISE, OF JAPANESE BRONZE.

(Chinese Museum at the Louvre.)

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mixture of clay and rubbish, and sometimes of horse-dung; in French it is technically called "potée;" he then covers this with wax, which he models into the required shape. When the model is completed he covers the exterior of it extremely carefully with layers, getting gradually thicker and more compact, of the same "potée," whose quality it is to bear a very high temperature. In these he leaves slight apertures for the escape of air when pressed by the expansion of the metal in a state of fusion, also small openings or jets for the introduction of the metal. Then the wax is melted and got rid of, after which the melted metal is poured into this well-consolidated mould. Of course it penetrates in its liquid state into every corner, however small, of the mould, reproducing every detail and every trace as faithfully as the human hand preserves the outline of a piece of money pressed heavily upon it. Every mark of the mould is expressed and copied with the most minute truthfulness; but the piece is unique.

We are in possession of a small study done after this method by David d'Angers for his fine medallion portrait of Armand Carrel. Besides the singular character of the model, the eye sunk, the straight projecting forehead, the square jaw and obstinate mouth, one is struck with the curious appearance which this piece of bronze itself presents, the size only of a five-shilling piece. The delicate touches of the modelling tool; the tender finger-touches on the upper part of the cheek; the suppleness of a lock of hair, which is thrown back, as was the fashion in 1830; the high relief of the neck; the boldness of the signature, which seems to have been written in the wax with a sharp-pointed needle; the visible emotion which David felt in reproducing the head of a friend so early snatched away from him;—all this strangely suggests to the mind those magnificent etchings by Rembrandt—heads which seem to breathe and to think.

Monsieur Barye's bronzes—whether statuettes or figures of animals, or even that equestrian statue of Napoleon I., which was despatched to Ajaccio before any one had had the time or opportunity of inspecting it in Paris, are cast in sand (*à sable*) with the most elaborate care and minuteness. They will remain among the honourable monuments of this century, too many of which have, for some years past, fallen the unwilling victims of cheap imitations. Without venturing to allude to them in an artistic point of view—the merit of which is great and

absolutely new in style, well deserving of special study—let us merely mention that these figures of centaurs, groups of Theseus overcoming the Minotaur, Louis XII. crowned with Italian laurels, and romantic amazons, elephants, tigers, horses, lions, crocodiles—in short, all this work, so simple, correct, and powerful, is from the point of view of the workmanship admirable for precision.

The art of casting has always been carried to perfection in France. Cellini considered the casts ordered by Primaticio to be made in France from moulds he had brought from Italy for Francis I. to be equal to antiques. The casts by the brothers Keller are very superior to any that have been done in any other country.

CANDLESTICK IN ITALIAN BRONZE.
(Sixteenth century.)

The most esteemed sign by which to recognise a cast of real merit, and one which is still visible even beneath that patina, or oxidation, wherewith time covers it as with a magnificent varnish, which varies from dark to turquoise blue, is the fineness of the epidermis or coating. No process can successfully compete with that by melted wax (*cire perdue*), which we have described above; and this the Italians well know, for they adopt it not only in making busts, but also for their statuettes and medallions, and even for articles of current use, such as candlesticks, inkstands, jewel-cases, &c. &c.

As a matter of course, the first scheme of an Italian artist, be it for an equestrian or merely for a standing statue, the first rough model, is made in this manner. Such is the model of the Perseus by Cellini, at Florence. Also that charming miniature edition of the statue of Colleone, by Andrea Verrochio, which is now in M. Thiers' collection.

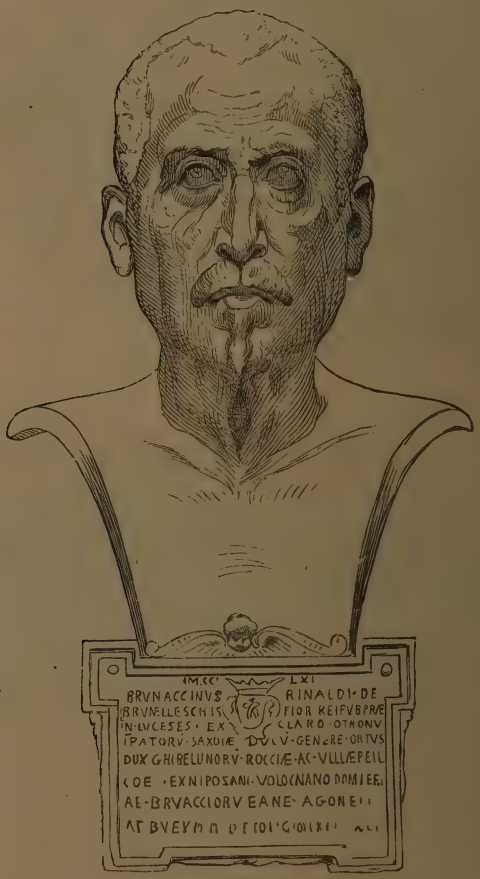
Our modern artists have laid aside this process, so exquisite in the delicacy of its lines, and have substituted for it the method of modelling in clay or potter's earth.

The real taste for the bronzes of the Renaissance dates only from a few years back; so we may still hope to see these precious specimens obtaining prices that are worthy of their permanent merit. The reign of Louis XIV., with its borrowed enthusiasm for third-rate Italian masters, had corrupted popular taste. Our modern amateurs, however, are more just, and according as admirers fall away from Guido and Albano, so the more robust schools of Florence and Milan rise in public estimation.

SMALL ROUGH MODEL OF THE COLLEONE.
Equestrian statue by Andrea Verrochio.
(In M. Thiers' collection.)

The bust of Brunacci Rinaldi, which is so life-like and energetic in its character, was bought by M. Gérôme, Member of the Institute, at the close of the Exhibition, for a sum which ten years hence would have increased tenfold. M. His de la Salle, an amateur of the highest as well as of the most comprehensive good taste, has combined in one collection antique coins, bronzes of the Renaissance, drawings by Poussin, and lithographs by Géricault, some of Angelo di Fiesole's paintings, and the complete works of Gavarni. He was telling us one day the price he had given for some of his Paduan medals and bronze plaques. It is about equal to what a good lithograph by Raffet or one of Seymour-Haden's etchings would fetch! . . . . . What a profound knowledge both of the emotions of the soul and the attitudes of the body is visible in this Italian art of the sixteenth century! and how striking is the combination of tenderness and power in this figure of Charity warming and fondling those plump and noisy children!

The different methods of casting necessarily vary with different metals and their degree of fusibility. For instance, it is evident that the treatment of copper cannot be the same as that used to make an



BUST OF BRUNACCI.

(Florentine Bronze of the sixteenth century. In M. Gérôme's collection.)

article of tin. Processes differing in essentials have been, and are still, much used, such as repoussé work on tin, for instance, or that of chiselling on iron.

We will mention this again in reference to locks and keys. But for

decorative articles which require moderation in price, and yet carefulness in execution, such as candlesticks, clock-stands, door-handles,

CHARITY.
(Italian Bronze of the fifteenth century. In M. His de la Salle's collection.)

&c. &c. the chiseller's work steps in both to modify and perfect the appearance of the copper when it comes out of the mould.

The seventeenth and eighteenth centuries produced marvels of this

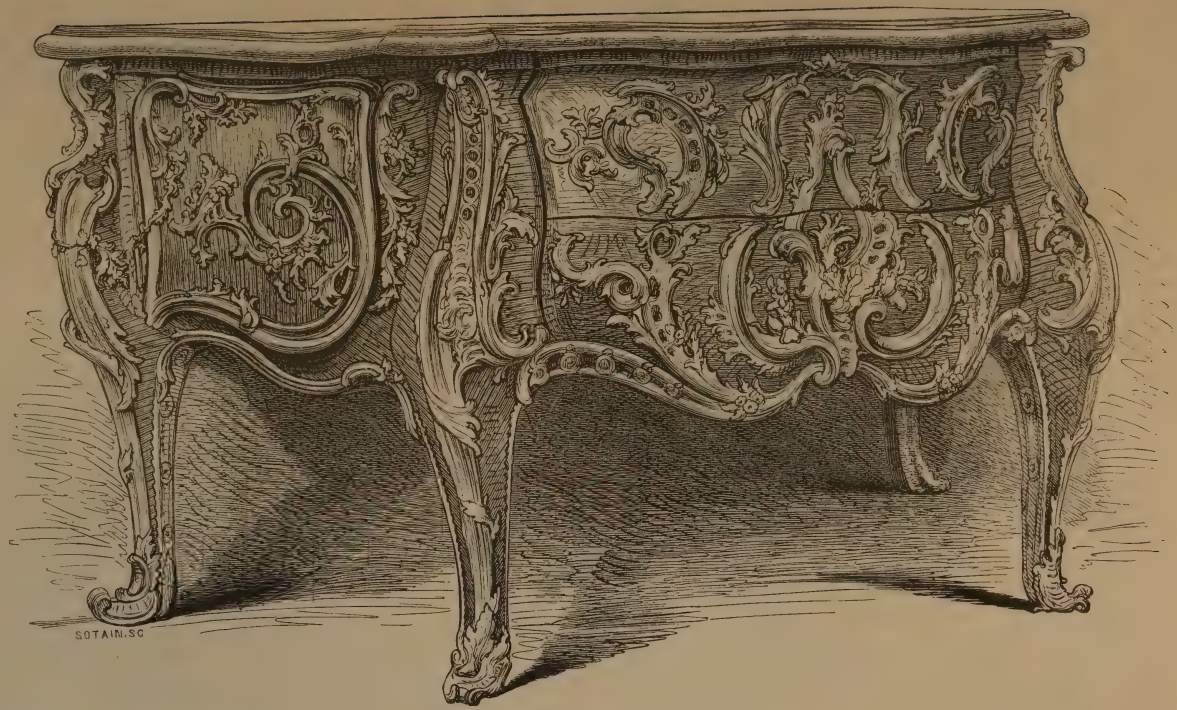
kind. The ornaments on this candlestick by Martincourt are entirely pierced and chased with a graver.

CANDLESTICK OF COPPER GILT.
(Chiselled by Martincourt. Eighteenth century.)

Among the most beautiful specimens of copper ornamentation, as to its size and quantity, is the justly-famous commode in the Marquis of Hertford's collection. It is one of the masterpieces of the art of the middle of the reign of Louis XV., a period when French furniture especially aimed at uniting suppleness and elegance with richness and weight. It was made by Philippe Caffieri (whose signature it bears), brother to that sculptor to whom we owe the fine busts, and especially that of Rotrou, which adorn the pit of the Théâtre Français.

It is said that no less than 38,000 francs (£1520) was given for this single piece of furniture, which, be it added, is as convenient as it is luxurious and well contrived. These modern prices appear to us to be high; none, however, but these rare bits of eighteenth-century art will fetch them. Nevertheless, they were no more than the prices of the eighteenth century, and prices paid for orders given directly to artists. Why is this not more generally done in the present day? Calculating money at three times its present value, which is about the average, it will be seen that we have not been guilty of exaggeration.

In the month of December, 1788, the sale of the Duc d'Aumont's collection took place after his death, at his hotel in Paris, in the Place Louis XV., the valuation being made by P. F. Julliot, jun., and A. J. Paillet, well-known experts of that day. This sale realised 175,071 francs and 17 sous. The collection was famous for its curious specimens of every description and valuable furniture; the experts, perfectly reliable men—Julliot especially, who has left behind him some very curious notes upon Japanese, Chinese, and Indian porcelain—stated, on issuing the catalogue to the public, that "this collection, illumined by the lights and productions of most distinguished artists,



COMMODE MADE BY PHILIPPE CAFFIERI.

(Eighteenth century. Collection of the Marquis of Hertford.)

was the most precious result of natural good taste that had been made public for some time past."

"This collection," they went on to say, "contains columns, tables, and vases, in which the value of workmanship and the beauty of form are united to great richness and rareness of material, all having been copied from the ancient monuments of Rome. Among them are many of those esteemed porcelains of many denominations, ancient Japanese, ancient Chinese, of céladon, sky blue, or violet, &c. &c.; 'pagodas,' interesting chiefly from the diversity of their character (pagodas were among that numerous family of gods, or Chinese personages, which Louis XIV. was wont to call—together with the pictures of Teniers—'des Magots'); French and Saxon porcelain of the best style; precious cabinets of old lacquer; bits of buhl, and inlaid furniture of no less value; candelabras, lanterns, and branches copied from the best possible models, in gilt bronze, mostly by Gouthières."

Gouthières, of whom we know but little, was chiseller and gilder to the king, and his invention of *mat* gilding made the fortune of French bronze mountings throughout Europe. As a chiseller he has perhaps been equalled—for our time has produced artists of incredible ability—but as an inventor of subjects and as an arranger none have come up to him.

The Duc d'Aumont's passion was for vases, either antiques or of antique shapes, made of hard and rare material. He sent for them from Italy, and had them mounted in Paris. Some of the articles at this sale which we will here mention will furnish matter, for those of our readers who may be well acquainted with the prices obtained at recent large sales, for curious comparisons. We again recommend the tripling of the sums we indicate, in order to obtain pretty nearly the actual value. To this it will be found necessary to add the five per cent. which, contrary to all reason, is in modern days always charged to the buyer by the auctioneer as his commission.

Among the "vases and columns," then, I find two vases of porphyry of the very finest quality, in the shape of urns, ornamented with rams' heads, projecting and cut in the block itself on either side, value 14,522 francs. They were three feet six inches in height. The engraving of it (for, with a degree of conscientiousness and care little carried out by auctioneers of the present day, the catalogue is ornamented with thirty aquafortis engravings, representing the principal

articles for sale) denotes a characteristically-shaped funereal urn. Two columns of antique green marble, eight feet high, surmounted by an Oriental alabaster vase, in the form of a scent-box, and placed on a round stand, the whole mounted in brass and copper by Gouthières, 13.801 francs.

Most of these articles are unknown to us, but here is one which has survived. The description given of it in the catalogue is a most faithful one; the following are its principal characteristics, but to those who did not see the original at the Exhibition the best idea will be conveyed by the excellent engraving of it by M. Jules Jacquemart. A round cup or bowl of floriated jasper, worked in ribs and flutings, supported on the heads of three fawns, and terminated by three cloven feet; the brackets of this tripod are twined about and joined by wreaths of vine-leaves and grapes; inside is visible a serpent, just emerging from the tailpiece, which is under the bowl, darting forward, the head upside down, twisting itself into a spiral shape to reach the fruit which hangs in a cluster from the centre of the base; the whole placed on a circular plinth, also of floriated jasper. "This piece," adds the expert, "precious for the rareness of its kind, the brightness of its colouring, and the neatness of its workmanship, is relieved yet more by an ornamentation of the most ingenious design and the most excellent taste, with which M. Gouthières can ever have found himself inspired. It is a masterpiece of artistic talent." It was bought for the Queen for the sum of 12,000 francs. It is the now famous jewel-box of the Marquis of Hertford, who gave for it no less a sum than 30,000 francs. The sums therefore are comparatively equal. It is in reality an article of considerable value, if, laying aside and placing ourselves above school prejudices, we judge it only by an artistic standard; by the trouble and care expended by the artist upón it; by the costly rareness of the material, and the surprising competency of the instrument that fashioned it; and, lastly, by the perfection and force with which it produces a *résumé* of the fashionable taste of a particular period. Either we must altogether suppress the eighteenth century, or else, having agreed to its courtesy in discussion, its politely satirical horror of pedantry, and its elegant and wholly French appropriation of antiques, we must recognise and admit that this article "presents to us a masterpiece of art."

By searching deeper into this catalogue we find two vases of antique Japanese céladon, for which were paid 7500 francs. A "Magot," or knickknack, a little bent, on a grey ground, with light blue short trousers, and a curiously folded cap on his head, carrying a beggar's pouch, fetched no less than 2400 francs; but besides the very rare quality of the material of this article, the catalogue called the reader's attention to "his cheerful countenance, which produces in one an agreeable sensation." In another place a monkey seated, with its legs outstretched, "the most amiable of its species, evident from its perfect quality and the truth expressed in its character," was bid for as high as 1399 francs and 19 sous. This amiable animal previously passed its life in the cabinet of M. de Jullienne, Governor and Director of the Gobelins, and the personal friend of Watteau, who bequeathed his designs to him. Most of the Chinese porcelain had originally belonged to His Royal Highness the Dauphin, son of Louis XIV., "who liked this beautiful style, and had made himself a collection worthy of notice." Other articles, again, came from M. Randon de Boisset, or from the Duc de Tallard.

We will close this cursory glance at the curiosities of the eighteenth century by the mention of two tables of porphyry, ornamented with heads of Egyptian women, popular during the whole of the First Empire, in the magazines of Jacob, and which, it would appear, were invented by Gouthières, inspired by the literary success of the "Voyages du Jeune Anacharsis," and the pseudo-antique and reactionary attempts of Vienna. These tables were sold for 23,999 francs and 19 sous; two others of green jasper, also by Gouthières, "in the Egyptian style," went for 19,580. Cabinets and cupboards by the celebrated Boule seem to have had not the slightest success. Two pairs of branches, surprising in their general effect—they were six feet high, and of bronze, covered with dull massive gold—represented chiefly, in shape at least, a quiver with branches of roses, ivy, myrtle, and a thousand other emblems, arrows, bunches of grapes, bows of ribbon, masks of laughing fauns, hunting horns, shepherds' crooks, &c. &c. Each of these pairs, which by candlelight must have produced the most dazzling effect, fetched over 9000 francs, which sum they had in all probability cost the Duc d'Aumont, when he paid the bill of the indefatigable Gouthières.

We shall have further occasion to speak of bronze and ornamental

brass and copper in our chapter on Goldsmith's Work, respecting Cellini. We will therefore again take up our chapter on Iron, which we have as yet scarcely commenced.

The greatest industrial conquest achieved by man has been the discovery and working of iron. Until the day when he first guessed the secret of digging for it in the bowels of the earth, purifying it in the fire, and softening it with the hammer, man had walked in that kind of enchanted childhood of simple and incurable weakness to which Grecian mythology has given the marvellous title of "golden age." They knew no more of life than do the savage or the young child. Iron revealed to them a more permanent future, and obligations of a graver sort, binding them more closely to that mother-earth, the sap of which is found to be less abundant in colder latitudes, and which, though ready to pour out her produce to them, demanded that they should be at greater pains to obtain it. Then ensued a gradual but steady development of things; the discovery of wheat succeeded that of fruits; the spade succeeded the huntsman's arrow; the wandering tribe became a nation, and so on.

Gold seems, as it were, formed of the solidified rays of that powerful sun which bathes the East. Rough, dull, stubborn iron, on the other hand, is the characteristic metal of those brave races which were the first to quit the plains of India, like those new swarms of wandering bees which leave their hive, and whose honey tastes of the wild flowers which blow on the mountain sides. For a considerable time iron was only a symbol of brute force. Alchemists called it Mars; for, in the heavens, Mars is that star which throws forth rays of fire of a bright orange colour like rust. But now-a-days Vulcan has become the chief of a foundry, and Lemnos has been transported to Creuzot. The engineer conquers the soldier, and that sword of which we have been relating the glorious mission, twisted and beaten in order to serve new purposes, will soon be one of the muscles of Hercules—a wheel in a modern machine.

It is high time, however, that we stopped short, and, as we did with regard to arms, abstain from speaking of the more colossal applications of cast-iron, wrought-iron, and steel, within the last quarter of a century. A novel form of poetry is about to proceed from those works and factories, which are small towns in themselves, and which employ no less than 25,000 workmen, such, for instance, as Creuzot.

A day will come when some poet, some writer of genius, after descending those mines, and investigating those workshops, will be struck with the noise of those gigantic hammers, and feel his eyes dazzled by the white light which is thrown by melting furnaces; and then a new art will spring from the locomotive, the crane, and the column of cast-iron, and they will combine to form that harmony which, presiding as they do over all that answers to the necessities of society, is the law of industrial beauty. One artist has already applied all the forces of his will and of his talent to mark the salient points, and the multitude of details which exist in these formidable wholes; this artist is M. François Bonhomme, whose name it would be an injustice to omit in a work like the present.

Repelled by the classical artists for "cultivating an ignoble style of art," and by practical manufacturers as "poetical," he might have been tempted to throw the stick after the lost pencil, if he had not aimed high in the pursuit of a distinct object, bravely following his course, and shutting his ears to the unjust criticisms of indifferent men. With innumerable drawings, oil paintings, specimens of mural decoration, large water-colours, and woodcuts collected here and there from illustrated works, he has commenced his "Histoire de la Minéralogie et de la Métallurgie;" a spirited work, that teaches the double art of gathering minerals from the bowels of the earth, and of adapting them to the thousand necessities of a modern world. His studies combine a consummate scientific knowledge of details with an inspiration at once simple and poetical. Starting from the survey of an engineer, and the implements used by the miner and blacksmith, he gives a powerful sketch of the furnaces of Creuzot, with its turf and verdure blackened by the permanent smoke of its brick chimneys. Too often unjust towards those artists who seek for truth and novelty, the public has overlooked, not, perhaps, without understanding them, but without rightly examining them, these loyal and courageous attempts to ally art with modern and every-day life.

It is high time, however, that we should witness what the eighteenth century would have called "the marriage of Art with Industry." The latter has in great measure, in fact almost entirely, absorbed modern attention. War, which in former years inflamed the minds of men with enthusiasm, is now hated as an accursed thing; so that we may foresee that its days are numbered. The world, however, would

become a sad heap of confusion if art were altogether excluded from it; but happily this has not taken place, and never can. There will always be kindly obstinate natures who will persist not only in pursuing art themselves, but in demonstrating it to others. Unnoticed and almost unconsciously they will accomplish masterpieces of elegance and power, in designing what they only intended to be a plan for a locomotive, a steamship, or the erection of a market hall.

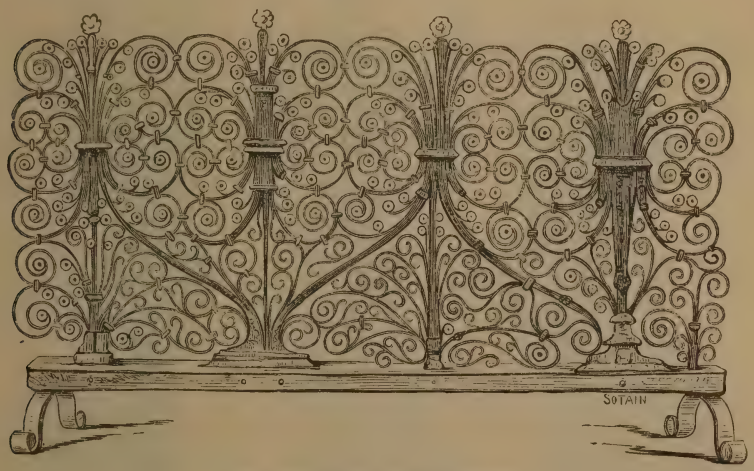
Speculations like these, however, would demand an amount of time and space that we have not to spare. I will simply mention the *Halles centrales*, less as a special example than as a starting-point, to demonstrate the advantages an architect can draw from the variety of new material placed at his disposal by modern industry. No false

A BLACKSMITH'S WORKSHOP IN THE FIFTEENTH CENTURY.
(From an Italian woodcut.)

columns, no stucco ornament in imitation of marbles which ancient Gaul never produced, but straight and symmetrical lines of small cast-iron columns, intertwinings, curves, and groundworks of glass and of brick. In our opinion nothing is comparable to this modern building, in our country at least, for just use of material and suitableness of aspect.

The use of iron and of cast-iron—for we know that iron and steel are but chemical modifications of the same metal, issuing from the same mine—was in the Middle Ages, both in France and in Flanders, put to a great variety of uses. The rough art of the blacksmith and locksmith was chiefly carried out there, while the art of the armourer was chiefly cultivated in Italy and Spain.

Unfortunately, iron is too easily oxidised; rust gnaws into it with cruel avidity; for this reason but few large specimens have been preserved to our day. One of our finest examples is the doors of Notre Dame. The hinges spread out upon the panels, strengthening as well as decorating them, with that singular beauty of appearance resembling the sea-weed plucked by children out of low-water pools and laid out to dry upon paper. They are the work of Biscornette, a blacksmith who—at least so his contemporaries affirm—had the devil himself for an assistant. This fact was rumoured about a good deal to his disadvantage, for one day he was missed, and it was generally supposed he had gone straight to hell.



IRON GATE OF THE TWELFTH CENTURY.
(Ancient collection of Le Carpentier.)

Mathieu Jousse, locksmith at La Flêche, and author of several works which were published in France on locks and hinges in 1627, expressed his regret that the "authors of antique locks should not have transcribed their finest secrets—among others," he adds, "that of melting iron, and casting it, like all the other fusible metals, at little cost, which recipe Biscornette took with him."

Another much older, but not less beautiful specimen, is the gate of the twelfth century which was in the Le Carpentier collection, when that indefatigable collector was still alive. The chief volutes start from a central stem, like branches from one trunk; the other

smaller ones are bound together with a cylindrical strap, thus combining solidity with elegance. At that period, and during the century which followed it, gates were made of solid iron; and it was only the century after that which began to cut out ornaments of sheet-iron modelled and beaten into shape with a hammer.

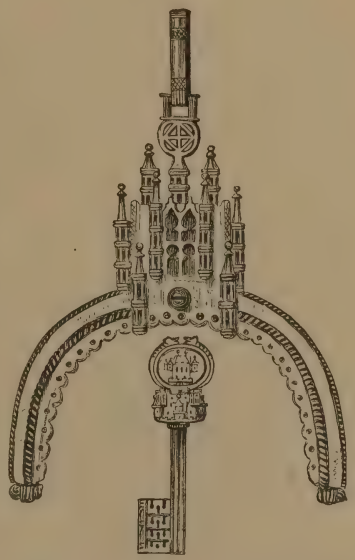
From this period also date those short thick keys which, instead of a ring for a handle, have a transparent rose cut out in imitation of the Gothic windows of a cathedral. The locksmith follows in the path of

KEYS OF THE FIFTEENTH CENTURY, IN WROUGHT-IRON.
(From the Sauvageot collection.)

the architect, just as we have seen in our chapters on Ceramic Art and Window-glass, tessellated pavement and glass contribute their part in a general and impressive whole.

This was proved, during the fifteenth century, by the pretty purse-clasp we here reproduce; the locksmith cutting, chiselling, and working iron as easily as the goldsmith did gold, was able to imitate and copy entire monuments. The fashion of wearing these *gibecières*, or purses, which were, by means of a chain or a leathern strap, fastened to

the waist, lasted until the reign of the Valois. The Sauvageot collection is believed to possess the mounting for a purse of this kind which belonged originally to Henry II. Whatever its origin, this mounting, which has been sufficiently reproduced, is worked with admirable minuteness.



THE CLASP AND KEY OF A PURSE OF THE FIFTEENTH CENTURY, IN IRON WORK.

(In M. J. Fan's collection.)

Flanders and Germany were in no way behind-hand. All tourists must have examined the well which stands before the door of the cathedral at Antwerp, and which tradition attributes to Quentin Matsys (1460 — 1530), who, with superior talent, was the author of the font-cover of St. Peter's Church, in the town of Louvain, where he was born. Tradition, too—always fond of gossip and malice—asserts that it was love which made him lay aside the hammer and take up the brush; but this is no business of ours.

Iron was beloved of poets and dreamers in these rude times. The most sublime work of Albert Dürer, a figure of "Melancholy," itself the deepest sigh that the breast of an artist ever heaved—an angel, seated, and crowned with a box-tree wreath over knitted brows and a far-distant look, in the midst of the thousand allurements of which he has proved the utter emptiness:

> "Ce sont des attributs de sciences et d'arts;
> La règle et le marteau, le cercle emblématique,
> Le sablier, la cloche et la table mystique . . . ."

To these the poet* might have added the blacksmith's tongs. The articles held listlessly in her hand by Melancholy—the compass, the bunch of keys suspended to her waist, the scales which hang against the wall—are of iron, and curiously worked and ornamented.

* Théophile Gautier, *La Comédie de la Mort*, 1838.

Jacques Androuet du Cerceau, who was a draughtsman and engraver, as well as architect, of the sixteenth century, has bequeathed to us a series of locksmiths' designs, whence we have borrowed the above illustration. We know that, previous to the scheme of numbering the houses of a large town, it was the custom to designate private houses, and even the mansions of the nobility and rich gentry, with some emblem, externally exposed. So, in the immediate neighbourhood of the Louvre, that which subsequently became the Hôtel de Nevers

FRAME FOR AN HOTEL OR MANSION SIGN, OF WROUGHT-IRON.
(From a design by Androuet du Cerceau.)

had for its sign "The Crowned Lion." "The House of the Wood Pigeon" stood next to the Hôtel d'Alençon; besides these there were the "Croix-Rouge," "L'Epée Royale," "La Tour des Bois," &c. &. We specify this work of du Cerceau as being full of interest for amateurs that may wish to restore or make up any old bits of household furniture in the style of the Renaissance period. There are designs for door-scrapers and knockers. The knocker was applied to the exterior of the house-door, and the scraper was reserved for the

WROUGHT-IRON DOOR KNOCKER.

(Of the time of Henry II. of France. Louvre Collection.)

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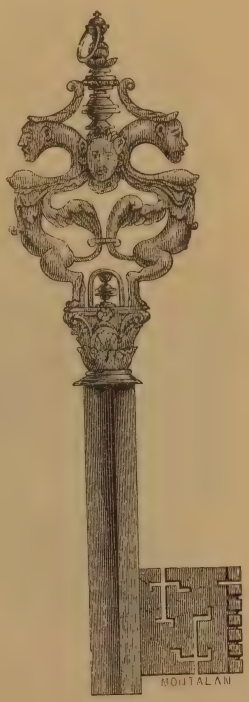
doors of the different internal apartments; these last were ornamented with figures of satyrs, bent backwards to meet a loose ring that rubbed on their backbones. It also contains patterns of keys, large and small, and the plates belonging to their key-holes, decorated with slim chimæric figures, winged bipeds, part woman, part bird, and part lion, twisted into numberless shapes; also handles for doors or drawers.



A KEY OF THE SIXTEENTH CENTURY, CHISELLED IN WROUGHT-IRON. (Sauvageot collection.)

It is one of these knockers, which have almost universally disappeared, and whose pompous and ponderous noise has been succeeded by the shrill tinkle of a door-bell, that our illustration represents. It once decorated the door of some royal palace, or that of some one allied to the court of Henry II., as is proved by the emblems upon it. On the lock, its genealogical title is still more clearly testified. Above, in the centre of the ribbon of the order of St. Michael, are the arms of France; underneath, we read the somewhat enigmatical motto of the King—"*Donec totum impleat orbem.*" Poor majesty! who only "filled the world" with the talent of the artists his court possessed, and the beauty of Diana of Poictiers, whom he called upon them to idealize and deify.

During the seventeenth and eighteenth centuries, the art of the blacksmith—which, in these few pages, we cannot stop to distinguish from that of the locksmith—is still rich in vigour and fecundity. The iron gates of the Palais de Justice, as well as those of a thousand country châteaux, are a proof of it. We know the numbers of balconies, balustrades, and banisters, in endless variety, which stand out from the sides and frontages, and serve as supports to the staircases of public and private mansions; the plates which ornament the back of fireplaces and grates; and the bunches of spikes which are set at the end of walls and wooden palings to intercept the progress of enterprising intruders.

The town which has afforded us the most surprising specimens of this work is Basle. We have heard that a number of French iron-smiths took refuge there after the revocation of the edict of Nantes, and established works, where they turned out profusely every description of iron ornamentation; and, indeed, the specimens that are left savour of the artist's hand, subtle in creating difficulties and overcoming them; the branches are twisted and intertwined like the twigs of a vine, separating, and again joining, to support baskets filled with fruit and flowers, the whole accomplished with an intricacy which puzzles one, but which is evidently the revelling of a mastery of the art.

LOCK OF WROUGHT-IRON.
(From the Château d'Anet.)

At the beginning of that century the radical decline of the locksmith's art set in. The monumental and stately gate was succeeded by one of monotonous stiffness and regularity, whose only ornament was spiked bars. "Des lances, encore des lances, toujours des lances, rien que des lances!" with only a bunch of spikes tied with ribbons by way of variety, or the lictor's fasces. On entering a garden or a courtyard we are greeted by the symbol of a prison or barrack! An anecdote is told of a marshal of France, who, in reviewing a company of *voltigeurs* on the Place du Carrousel, exclaimed: "Shut the gates, lest these canary-birds should escape!" He was right, for these gates are more like the bars of a cage than anything else.

As an industrial art the principles of the Restoration and those of the century which followed it were not calculated to raise this branch of industry; thus the evil continued to progress, so much so that a few years ago an architect who possesses one of the richest collections of ornamental designs, M. H. Destailleurs, was able to pronounce with truth the following severe judgment: "In general the head of a

IRON GATES OF THE NEW PARC MONCEAUX.

(Made by Mons. Ducros from Mons. Daviaud's design.)

large locksmith's establishment overlooks the works of his factory, anxious chiefly to obtain large orders, that he may keep up the number of his hands, without, however, entering personally into the minuter details of the work. If he undertakes some more delicate bit of work, for which the design of an artist has been found necessary, a sculptor is called in. Unfortunately, this joint production does not always answer, and for a very simple reason. The artist who is not familiar with the handling of iron often sends in an impracticable design or model, which, after great difficulties have been surmounted, is far from coming up to the effect that was expected of it. On the other hand, through ignorance and want of educated taste, the workmen often spoil the effect of details they do not understand, and so altogether slur over or dispense with them."

But now-a-days, on the contrary, young architects, who, although they may refuse to admit the fact, are allied closely or distantly to the profoundly national school of the Lassus and the Viollet-le-Duc, have formed heads of large factories, and have trained workmen for themselves. The first thing to be done was to dispense with cast-iron, which in some circumstances, and in its proper place, looks so well, but is so inadequate if required to yield softness and grace of detail; which was stuck about the frontage of houses in a thousand shapes—now a head of Mephistopheles, now that of a cherubim, the figure of a troubadour, or that of his lady-love—all more preposterous and out of date even than those on the zinc pendulums of third-rate French clocks. This end was soon accomplished. The gates of the Parc Monceaux form one of the finest examples of our contemporaneous Renaissance.

We regret, however, that the magistracy should have been checked by economical views in a matter where municipal sumptuosity ought to have been allowed full swing. Superadded ornaments, such as flowers, arms, laurel-leaves, wheat-ears, and such like, were formerly cut out and separately shaped by a stamping process; they were not only separate themselves, but the material of which they were made was separately prepared, and often underwent a different process; sometimes they were of sheet-iron, sometimes of cast-iron, the wrought-iron still taking the precedence. But they were always soldered on, that is to say, applied together when in such a state of incandescence as will enable the molecules of iron perfectly to mix and adhere

together. For this long and costly process another has been substituted, which consists in fixing the leaves and ornaments in their places by means of rivets or small screws; but solidity is sacrificed both now and for the future, as may be conceived.

Good work then is, and must always remain, a question of price. We know of a small house near the Champs Élysées, in which the balustrade of the staircase from the ground to the first floor has cost the modest sum of 12,000 francs. It is of polished iron, shining with the brilliancy peculiar to steel. It is so harmonious and elegant in its interlacing, and at the same time so light and supple, that one might think, if one liked, it would be easy for some handsome giantess to pluck it from the marble steps, coil it round her arm, and thus possess herself of a magnificent bracelet.

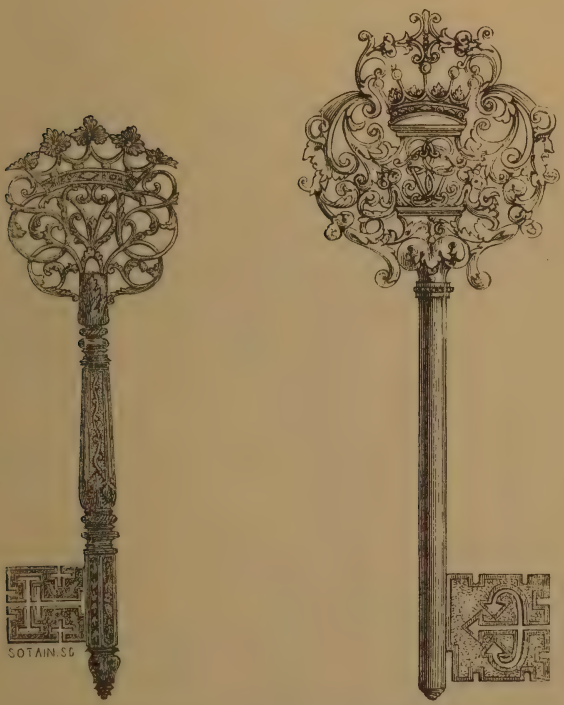
And this is not a solitary example of modern interior luxury carried out, as in past ages, to its highest perfection of detail. At the last exhibition of the *Union Centrale*—which we here mention with satisfaction, insomuch as it demonstrated within the limited strength of a private association, and in a country where everything is ordered by the State, what advances had been made in Industrial Art—a young locksmith, M. Huby, jun., by name, received a first-class medal for keys of marvellous workmanship exhibited by him. Would it not be a charming and gracious sort of luxury for a rich man to have all the keys of each piece of furniture in his study marked with his crest or with his family motto?

At that exhibition, too, it was easy to follow the vast modifications which modern discoveries have effected, and placed within the reach of arts as applied to industry.

Ancient metals—brass, for instance—with its more vivid lustre than gold itself, and sober greenish reflections, will no longer form the sole material for monumental inkstands, washing-basins, and ewers in the Flemish style; but the manufacturer will seek to introduce the new greyish-tinted metal, light as glass, known as aluminium, and study its possible adaptation to modern furniture.

Zinc, again—a metal relatively quite modern—has not only introduced itself, but also forced its way among us. It is said that it promised more than it has performed. But still, on the lead ridge of country mansions it displays a certain kind of rustic elegance. I would even admit it for large figures in common or religious decoration; for in-

stance, for the angels which support the pillars of small towers in religious edifices, or for figures standing over the door of a greenhouse or a stable, although I am told that when hard winter frosts or heavy rains arrive, the lions are apt to lose one or more of their paws, or the saints their arms, and even their prayer-books! But this is the manufacturer's concern. I personally only detest zinc in the form of statuettes



KEYS OF WROUGHT-IRON, OF THE SEVENTEENTH AND EIGHTEENTH CENTURIES.
(By M. Huby, jun.)

or cups when it pretends to be bronze. It is a piece of unpardonable presumption, and I would pursue those impostors with a horsewhip who present themselves to us in the attire of their masters, "but without his soul."

One of the most original and surprising inventions of our day is that of Electro-plating. It is to Charles Christofle that is due the honour, if not of the discovery of electro-plate, at least that of its most important

industrial applications, especially in the artistic world. Its results have been great. Electro-metallurgy has enabled us to ornament the chief places of some of our humblest towns with monuments in metal. I admit that in most instances they are in detestable taste; but the fact still remains, and some day, when that eternal search after cheapness, which causes so many and such great errors of taste to be committed, can be laid aside, good taste will take a firmer root; a preference will spring up for better-conceived and better-executed models—better suited, moreover, to the end for which they are intended—namely, ornamentation and decoration. On the whole, the effect produced by these pieces of galvano-plastic is generally better than that of cast-iron, although, latterly, we know more what might reasonably be required of cast-iron, and what obtained.

Electro-plate has vulgarized dinner-table services by offering all the advantages of silver without imposing the cost. To electrotype we owe the power of multiplying *ad infinitum* the types for printing, thus lowering the expense of the most *recherché* and exquisite engravings; such, for instance, as the highly-wrought initial letters, which in former days were very costly; it also furnishes us with the negative and plates of famous engravings.

One of its most curious applications has been the engraving of prints. We know that, in the first instance, prints are cut either on steel or on copper. In passing under the roller which impresses the design on white paper, the plate naturally undergoes a considerable degree of pressure, and after much using it finishes by losing, to some extent at least, the distinctness of the type. Thus it is that first impressions are always most highly esteemed, which gives amateurs their passion for "states" ("*états*"). Each successive phase through which a plate must pass under the engraver's pencil, or the influence of aquafortis, and in the merchant's hands, is called a "state." The first "state," for instance, previous to the letter; the second with the letter, which is already less valuable, since it argues an edition more or less numerous; the third, with the additional touches necessary to supply the deficiencies of the plate, and so on. Now-a-days nothing of the sort occurs. Electricity leaves on the copper-plate an imponderable veil, which steels and hardens it, thus certifying a tenfold number of good proofs.

When it is found that the steel surface is beginning to yield, it is

CANDELABRA OF CAST-IRON.

(Made in England from a model by Mons. Carrier-Belleuse.)

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subjected to the process again, and re-steeled over. This is, therefore, the multiplying in countless numbers of good and excellent impressions; and it is a result in which art is very deeply interested, for it is next to impossible to give a fair judgment of a master if one has not a perfect proof with soft shadows and delicate lights. A good proof of the Hundred-florin Piece, by Rembrandt—itself a miracle of colour and effect, to say nothing of the prodigious power and delicate sentiment of the conception—if it be in its first "state," or even in its second, may fetch the sum of five or six thousand francs, while a grey and worn impression from the same plate would cost only five or six francs.* If the process of electrotype had been known to Rembrandt, all his work would have been like those pink blackbirds which large collectors hunt with handfuls of gold.

Galvano-plastic is the application on a large scale of this process. The description of it should be purely scientific; we shall, therefore, not attempt to give it. Of course, chance—but one of which intelligent men only knew how to take advantage—had a share in the discovery. At a meeting held this winter on the subject, after calling attention to the efforts of Volta, of Nicholson, and of Carlisle in 1800, of M. Ruhmkorff in 1864, M. Henri Bouilhet mentioned the simultaneous experiments of Jacobi and of Spencer in 1838 and 1839. He then went on to relate the two following anecdotes:—

Professor of the observatory of Vilna, the illustrious chemist was engaged in making researches concerning the voltaic pile of Daniell; he had ordered the workman whom he employed for making the copper cylinders which were necessary to his apparatus, to be careful to use none but stout, perfectly malleable brass. When the experiments were made, M. Jacobi's assistant came to him to acquaint him with the unwelcome fact that his workman had deceived him, the brass he had furnished being brittle and only of third-rate quality. M. Jacobi went to his laboratory to verify the fact, and on his way to it he encountered the supposed delinquent, who protested to him that the material used was good. M. Jacobi had no reason to mistrust the man, so he resolved to investigate the fact more closely. With the fine

* The celebrated etching of Christ healing the Sick, by Rembrandt, which, from its scarcity, was called par excellence. "The Hundred Guilder" print is of greater or less value according to the different states of the plate. The finest specimen known was purchased a few years since by Mr. Palmer for the enormous sum of 1180 guineas, and within the last year was re-sold by auction for £1100, and is now on the continent.—Ed.

point of an instrument he raised the layer of metal which clings to the negative pole of Daniell's pile, and was greatly surprised to find that it faithfully reproduced every scratch, line, and blow on the copper cylinder. His attention once aroused, he thought he would try it again; and again it was repeated in various forms, so that shortly afterwards he was able to announce to the Academy of St. Petersburg that he could produce copper-plates which bore in raised figures all the hollow marks and lines engraved on the original.

Mr. Spencer arrived at a similar result by another observation. A small drop of wax had accidentally fallen on the copper-plate which formed the negative pole of a pile of sulphate of copper; in adhering to it the metal stopped round the edge of the drop of wax. "I at once perceived," says Mr. Spencer, "that it was in my power to guide the deposit of copper as I chose, and to run it into lines scooped out with a point on a plain copper-plate." This was Spencer's first experiment, and such its result, upon which he instantly conceived the scheme of using the galvanic deposit to produce typographical characters.

Modern woodcuts are, almost without any exception, printed by means of galvanic *clichés;* besides the incontestable advantage of shielding the first type from all chance of accident, these *clichés* afford the means of obtaining as many as eighty thousand proofs, while the primitive wood would hardly have yielded ten thousand unimpaired; and this advantage is incalculable, when we consider the necessity of taking proofs on different presses at the same time.

"The process for obtaining these metallic *clichés* or stereotypes, which offer all the advantages of the original wooden plate, is as follows: The wooden plate being engraved and ready, it is rubbed with blacklead, and then an impression is taken in gutta-percha by means of the pressing apparatus; then the mould is dipped for the space of twenty-four hours, which is the time necessary for it to be covered with a slight coating of copper; when this is done the reverse of the mould is covered with metal rendered fusible at a very low temperature, then the compound material of which the type is made, and the surface is placed on a stand that holds it upright and is destined to regulate its thickness in so doing.

"Thus the *cliché* soon attains a greater thickness, that is to say, that of two or three millimètres, the thickness required to resist the mechanical pressure it has to undergo. To obtain this effect at once,

it had been necessary to dip it for three weeks. It is next nailed to wooden plates, the size of the original, to be printed, and, forty-eight hours after, a perfect proof is obtained of a wood engraving which probably cost the author two or three months' hard work."

Another very important galvano-plastic application is that of substituting the electric current for the engraver himself; so that, after handing a traced design—a mere drawing—on any given surface to a chemist, he will produce an engraving of the same, either hollow or in relief. Messrs. Dulos, Comte, Gillot, Coblence, not to mention others, have attained, more or less closely, to perfection. Thus, the frontispieces for the various chapters of this work, which M. Edmond Morin has been good enough to design, are engraved by a "process," and are not woodcuts, as are our other illustrations.

It is evident that these "processes" are as nearly perfect as possible, although they have not as yet the neatness of outline, or the depth of colour, of a good wood engraving. They offer, however, the immense advantage of being able to suppress an intermediate agent, or engraver; which engraver is tempted, the more and greater talent he possesses, to substitute his own work for that of the designer, thus proving himself a clever impostor. These remarks, however, would be more suitably placed in a chapter on typography. If we have been tempted to digress, it was to explain to our readers how it is that they see such numerous illustrated papers daily appear, and how it happens that these papers produce designs only issued from the artist's hands the previous day.

The electro deposit of copper has also met with a large sphere of usefulness in the decoration of modern Paris; the fountains which adorn our public places, such as that of the Place Louis XV., the lamps and gas-pillars which light our boulevards and streets, are covered over with copper by means of a special process which we owe to the ingenuity of M. Oudry, and which preserves them from rust and oxidation.

But our reader asks, where are the masterpieces? These are only the ingenious applications of Science; what has Art to do with them? Art is deeply interested in them; but it is a new kind of art, and one to which a future time must learn to adapt itself; an art whose object is no longer to gratify the isolated taste of amateurs, but to meet the complex exigencies of the public; an art which gives an equal portion

to the artist and to the patron, and which, without trespassing on the rights of imagination, allows of a hundred thousand proofs being drawn of a masterpiece which was formerly unique, for the benefit of a vast community; an art which, in short, is everybody's, which only waits for more tranquil days that it may flourish and disseminate instruction equally to all.

Electro-plating has already done much in multiplying the masterpieces of past ages. At M. Barbedienne's our readers may have seen a faithful repetition of the doors of the Baptistery of Florence, by Lorenzo Ghiberti. In the windows of all the bronze shops are exhibited copies of cups attributed to Cellini, antique statuettes, medals of the Renaissance, &c. &c. The result is excellent, and yet we can scarcely bring ourselves to rejoice in it. We should leave its distinctive feature to the past untouched. If an artist has conceived a bust in light-coloured bronze, let it not be reproduced in dark; if he has produced the living and attractive outlines of the *cire perdue*, it should not be reproduced by means of a deposit of copper, the molecules of which can never come out perfectly adherent and compact. It is not well either to increase or to diminish what has been created in a given proportion. The Venus of Milo reduced to the dimensions of a statuette is scarcely distinguishable from a statuette by Pradier; and we feel that it would be almost impious to surround an office inkstand with the figures of those Greek horsemen which gambol in the friezes of the Parthenon. To each one his suitable clothing, his blood, and his soul.

The thing to do is to seek new applications of a new method. The electro process admits of multiplying a work at little cost; let this be taken advantage of to order works of contemporaneous artists which will be a sincere expression of their day. If you can place no confidence in the scrupulous honesty of the artists of genius who will be encouraged to enter the field, if they are not already born, or if we have not sufficient clearness of vision to discern them, then put up models for competition.

But on one ground the electro process is certain to triumph over the ancient process of casting. The days of the Colossus of Rhodes are passed, between whose legs vessels plied, fully rigged and all sails set. The day of those mighty statues, such as those of which remains have been discovered near Lyons, and whose hands are more

than half a yard long, is over. Even equestrian statues are seldom attempted now, but columns never. The electro process is here, which enables a hollow bas-relief, by means of a coating of metal more or less thick, to present the appearance of a solid mass. We can already instance some of these triumphs of industrial art: the covering or outer coating of the Pope's waggon in 1859, under M. Trélat's directions; the locksmith's work for the Empress's apartments at the Tuileries; and the doors of the Church of St. Augustine, commenced at the same time as we write these lines, from the drawings of M. Victor Baltard. These, in themselves, are sufficient to bid the critic pause, and to furnish him with subjects for work and thought. Who knows whether we may not shortly have to cite, among the masterpieces of decorative art, the capitals of the columns of the new Opera House, which M. Garnier is claiming at the hands of that able and mysterious workman called by science the galvanic current, and which is perhaps none other than a subtle portion of the soul of the Cyclops and the smiths of bygone ages passing through a state of being unknown to us, on its road to supreme perfection?

JEWELLERY AND PLATE.

Simultaneous invention of the working of gold and the wearing of jewellery—The gold of the antique world—The travels of Chardin in Persia—The itinerant jewellers of India—The gilders of heifers' horns in the "Odyssey"—Egyptian mummies—Earrings and pendants of the eighth century before Christ—M. A. Castellani's attempts to find the secrets of the Etruscan and Roman jewellers—The funereal trinkets of the Campana collection.

Byzantine jewels; reliquaries—The Middle Ages—The Lorraine gold-workers of the Suger Chapel—The French thirteenth and fourteenth centuries—The Italian fifteenth century—The chief ornament of a table at the beginning of the sixteenth century.

The "Memoirs" of Benvenuto Cellini—His birth, his education, his first duel, his first works, and his peregrinations in Italy—The siege of Rome, and the tiaras of the papal treasures—New journeys, works, and adventures—His medals and coins—His first journey to France—His return to Italy, and his subsequent and romantic imprisonment at Rome—He is promoted, and devotes himself to the service of the Cardinal of Ferrara—Description of the salt-cellar of the museum at Vienna, the Earth and the Ocean—Second journey to France; his reception by Francis I.; the favours and orders for work he received—The Nymph of Fontainebleau and the gems of the Louvre—His misfortunes through having incurred the displeasure of Mdme. d'Étampes; his shrewd trickeries—He escapes to Florence—He occupies himself with the Perseus—The dramatic history of the casting of that statue—The death of Benvenuto Cellini.

The art of working gold in France from the middle of the sixteenth century—A German drinking-mug—The studio of Étienne Delaulne—The jewels of Gilles Légaré—Claude Ballin, goldsmith to Louis XIV.—The miseries of the Great Reign—A royal Nef, and a lamp under Louis XV.—Marie Antoinette's chimney-clock—A few works and a few names of well-known goldsmiths and jewellers under the Empire, the Restoration, and the late reign—A beer-pot by Messrs. Fannière Brothers—Conclusion.

JEWELLERY AND PLATE.

We have not in this work separated the goldsmith's craft from that of the jeweller, for they both melt, emboss, and chase the same metals, namely, gold, silver, steel, and copper; they mount the same kind of precious stones, the diamond or the pearl, handling the same tools, the hammer and the chisel. The goldsmith is the jeweller of the dressoir; and the jeweller is the goldsmith of the jewel-case.

Their history commences at the same moment. In the days when man, as yet hardly human, found a vague pleasure in drawing the outline of a stag's head on the flint of his hatchet, or an undulating line round the earthen pot he modelled with his hand, the woman found equal pleasure in collecting stones of various colours, rounded and made smooth by the flux and reflux of the tide, in piercing them through, and making them into necklaces and pendants for the ears.

As we have already stated, we think that gold must have been the produce first collected by the inhabitants of India on the sloping sides of the Himalayas, or in the beds of the torrents flowing from them. They must have gathered it in vast quantities: the amount of it scattered abroad in all parts of the earth is incalculable, and we know by the quantity which at the Renaissance was imported from Peru and Mexico, as well as that which in our days is brought over from California, what it must originally have been. It is not unlikely that at some period or other there existed at Rome and in the Lower Empire statues which were made of massive gold. The famous

Golden Calf of the Hebrews was but a vulgar bauble when compared with the splendour of Solomon's Temple.

Where, then, are these mines which yielded so prodigiously? Everywhere. It would seem as if the solidified rays of the dazzling light of the first of days were surrounded and encased in a network of gold. Gaul certainly possessed some. Our ancestors wore huge necklaces and bracelets of gold. A few months back two bracelets of solid gold, formerly belonging to Gaulish chiefs, strongly made and roughly ornamented, were added to the Museum of the Hôtel Cluny; one of them weighs more than four thousand francs. Gold was the ideal of riches in the antique world; and it will be long before the modern form of change—that is, paper—triumphs over its brilliant and incorruptible ancestor, at least in the popular mind.

In the journey which Chardin made through Persia, towards the end of the seventeenth century, he testified to the existence of accumulated fortunes and riches which pass all belief. We hardly know which to choose from the numerous quotations we might make to that effect. The following are two, chosen haphazard, and which are amongst the more modest among them. Chardin describes a tent which was called the "House of Gold." Two hundred and thirty camels were necessary to transport it from one place to another. Further on he speaks of the tombs of the two last kings of Persia, which are in chapels at Com: "The tomb of Sefy has, like that of Abas, a pall of that rich brocade of Persia which is the costliest made in any country in the world, and another over it of fine scarlet surrounded with a fringe of gold. This second covering is attached to the carpet on the ground by a braid, which is passed through a number of rings of gold, as at the tomb of Abas. Close by, in two niches, are a quantity of books of the law contained in bags of gold brocade. It is impossible to see anything more beautiful or more magnificent. All the utensils belonging to these chapels are of gold or of silver. They consist of large candlesticks of fifty or sixty marks * a piece, of basins, dishes in which food is given to the poor, of hot plates, of shovels, of perfume-burners, and perfume-boxes."

In Persia, with that fine and singular race in which imagination and mysticism so greatly predominate, the workmen who handle gold are subject to singular responsibilities. The ring which surrounds the seal

* *Mark*, eight ounces.

or talisman is only half detached from the talisman itself; and as that seal is the visible mark of earthly power, so the engraver and jeweller are responsible to the government for the bad use to which it may be put.

The goldsmith's art is still, now-a-days, practised in the English possessions by the humblest hands. We have seen on the neck and arms of a young girl who had been educated in India, necklaces and bracelets of a degree of thinness and suppleness which defied all comparison with our European workmanship. They were actually as fine and as supple as a thread of silk; and yet not a single one of these threads, in themselves so fine as hardly to be discernible with the naked eye, had given way in the twenty years that she had had them in her possession. She told us how that, every year at a certain season, four poor itinerant goldsmiths came and established themselves in a little tent by the roadside opposite her father's house; they came in, and a few ounces of gold were measured out and handed to them; then they fixed a small anvil into the ground, squatted on their carpets, and from morning till night they would hammer, chisel, and beat with a surprising degree of patience, ability, and taste. A handful or two of rice was given them every morning, and about a fortnight afterwards they came and returned the equivalent amount of gold to that which had been lent them, transformed into trinkets and chains so light that Queen Mab might have selected them to harness her butterflies to her chariot. After which, with stoical indifference, they would fold up their tent, remove a few leagues off, and establish themselves at the door of some other nabob.

Might one not imagine such to have been the gilders of heifers' horns of which the "Odyssey" speaks? When Telemachus reaches Pylas, Nestor is desirous of making a sacrifice to Minerva; he commands one of his children to go and fetch him a heifer out of the fields; another he orders to go and tell the gilder Laerceus to come and gild the horns of the heifer. "The workman came, holding his brass instruments in his hand, together with his anvil, his hammer, and the carefully-made tweezers with which he wrought gold." The aged Nestor hands the gold to the workman, and he fashions it and applies it to the heifer's horns, in order that the goddess might take pleasure in the offering.

The Egyptians whom we meet with in Europe at the beginning of our Indo-European civilizations, seem to have carried the art of work-

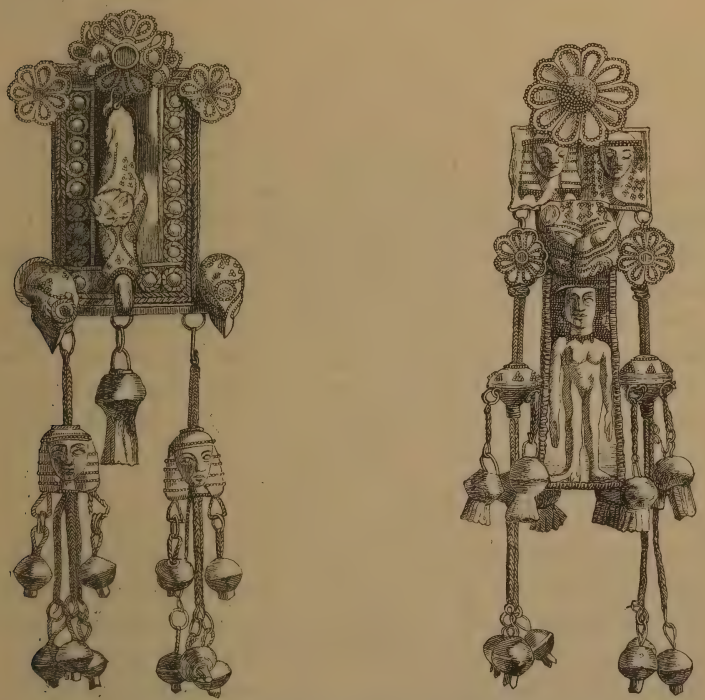
ing gold and jewellery to the highest degree of perfection. The sacred scarabæus, or beetle, emblem of the eternal regeneration of universal strength, is often met with in gold, and if those of stone or earth are more numerous in our day, it is because they were held in contempt by the Arabs, who pillaged the tombs before we did. Each of our readers has doubtless seen those mummies with a leaf of beaten gold applied over their faces, or on the outer coating of their winding sheets. These reveal the existence of consummate art. When carefully looked at, and compared with each other, it is easy to distinguish portraits which must have been true likenesses. Although they all have the typical almond-shaped eyes, high cheek-bones, and thick lips, these are not alike in all the mummies of queens or of priestesses, of Pharaohs or of centurions and chiefs; these thin gold masks, on the contrary, transcribe very different physiognomies, the difficulty being all the greater, because the faces must seem to sleep in peace and happy rest, as if they had left even the recollection of the passions they had passed on the threshold of the tomb.

We would refer our readers to page 222 of this work, in order to examine the beautiful Egyptian bracelet which is decorated either with cloisonné enamels or with coloured pastes. Is not that figure impressive, which stands erect, outstretching its four wings, as it were a holy bird or insect? Egyptian jewels are not very rare; their vast necropolis has furnished us with many.

But here are curiosities of quite as charming a taste. They are Phœnician earrings, which the Louvre acquired through M. Salzmann, who himself discovered them in the ruins of Camyrus, on the island of Rhodes. They came from the oldest portion of the necropolis, in the nearest zone of the hill on which the town is situated. Other articles were also collected from the same sepulchral chamber, but they had been much injured by the falling in of the roof. "I believe I am correct, and that I may still consider myself to be within the limits of probability," writes M. Salzmann, to the "Revue Archéologique," "when I attribute to the eighth century before Christ the divers articles which were dug out of that particular part of the necropolis."

These ear-pendants are not funereal jewels, like those in the Campana collection, which are made of extremely thin gold. They were worn fastened to the garments by a hook, which is visible on the upper part. They are of fine gold; the flat surfaces are composed of

two beaten plates, fixed together by means of solder round the edges; some of the ornaments on the upper plate are formed out of it, and are worked with embossed work; others are applied and soldered on after being made separately; moroever, the surfaces are covered with filigree ornaments. All the soldering is done with fine gold. In order to consolidate the whole, they have soldered, behind the lower plates, fragments of gold sufficiently strong to prevent their bending.



EARRINGS FOUND IN THE ISLAND OF RHODES.
(Louvre Museum.)

The lion couchant in the centre of one of these plates is in the Assyrian style; his mane is quaintly composed of a collection of minute round balls, while similar granulated lines designate his mouth, his ears, and his breast. In front of this lion, and almost between his paws, is a swallow, while each of the inferior angles is composed of an eagle's head. At the base are three rings, to each of which a pomegranate flower is attached by means of a little chain as fine as the

Indian chains we have just been examining. These chains are subdivided into three quivering and slender pomegranate branches, after passing through a head in the Egyptian style. In the other earring, of which the excellent woodcut here reproduced for us renders it unnecessary to speak, we discern the face of a woman—an Ethiopian, according to M. Salzmann.

The process by which the Egyptians, Phœnicians, Greeks, and Romans accomplished this granulated kind of ornamentation is but little known; we only know how much it was employed on their jewels; nor have we any idea how they were soldered on. M. A. Castellani, the son of a Roman jeweller, who, in 1814, had already made some experiments, resolved to solve this question. A pamphlet he addressed a few years ago to the Members of the Academy of Inscriptions and Belles Lettres, contains the most precise and practical documents which have yet been published on this subject.

Besides being one of the ablest goldsmiths and jewellers that Rome possesses, M. A. Castellani is an antiquary who has, at a great expense, made several collections, which he has scattered among the principal museums of Europe. It is evident, then, that his judgment is based on positive observation; and we should therefore credit him when he affirms that, even in the most brilliant days of imperial Rome, the art of Greek and Etruscan jewellery was steadily declining. After the fall of Rome there was, with regard to art, a long night of utter darkness; the early Christian jewels are often semi-barbarous—for a degenerate senility produces always inferior articles to the simple and artless sketches of childhood. Are not the Byzantine ear-pendants—which will be found on a succeeding page—a pale reproduction, a soulless and faithless imitation, of those of the Campana collection? The celebrated crowns of the Guarrazar treasure, which were in all probability presented by Gothic kings—three of the most ancient historical curiosities possessed by the Museum of Cluny—seem to us, from an artisan's point of view, and making all allowance for the striking and highly-coloured look of them in the lump, with their leaf gold rudely hammered, and their rough ornamentation, to be the work of a mere tinman.

The Renaissance itself either did not know, or did not care for, ancient jewellery. It is now among the investigations of Kertsch, of Vulci, Cervetri, Chiusi, and Toscanella, that this jewellery of the ancients

shows itself radiant and worthy to be ranked with the statuary and Ceramic art of flourishing ages. The searches in the necropolis of Etruria towards the year 1827 brought real treasures to light. The violation of the tomb at Cervetri, which was said to be Regulini Talassi's, placed in the hands of M. Castellani and his father articles of gold which they were able to study at leisure before surrendering them to the Pontifical government.

The finer pieces in the collection of the Marquis of Campana, and those which he collected at Cœre, are now at the Louvre. But we must not omit to remark that they are funereal jewels, that is to say, lockets, sheaths, plates, and crowns made to ornament—economically, however—the ears, the shoulders, breast, and forehead of the dear departed ones. France already possessed some sets of very curious antique jewellery, more especially the contents of a Roman lady's jewel-case, which were found at Lyons, built up in an old wall, and which therefore partly belong to the museum of that town. There, unfortunately, as is the case with almost all our national collections, no historical or descriptive catalogue of those articles exists, so that we can only here recommend them to the discerning curiosity of any of our readers who may chance to pass through that ancient capital of what was once one of the largest and wealthiest regions of Gaul.

To the jewels of the Campana collection here reproduced should be added the lockets, representing a swan and a cock, of which we have already given an illustration in our chapter on Enamels, for a demonstration of the ability with which the Etruscans made use of painters' enamel.

The "Cabinet des Antiques et Médailles" is also very rich in specimens of this kind. Besides various pieces of Roman goldsmith's work in massive gold, worked and beaten, and containing a whole series of medals, such as the "paten of Rennes," or, again, the chalice of St. Remi, it contains also the Sassanide monument, called the cup of Chosroës I.

Antique jewellery—which has, of late years, been very cleverly imitated, and which our fair Parisiennes took into favour for the space, at least, of a whole winter—are faithful and fragile testimonies of feminine luxury, never much varying in any age. There are necklaces, consisting of a chain, suspending cameos; rings, lions' heads, and asphodel buds; a figure of Victory, with outstretched wings and

a wreath in hand; or a Venus sitting on a panther, while her celestial son, seated behind her, is playing on the crotals; or pieces of money, similar to the coins which the Wallachian ladies still hang drooping from their hair; also earrings, brooches, pins, rings, and tiaras composed of a thousand little enamelled flowers. Nothing is so pathetic and breathes more of life than an antique jewel. The skilful, cherished labour of some unknown artist, its small dimensions, speak to us of an entire portion of the arts of a particular epoch. It has probably been the delight of some woman or child, and has grown cold on the chest of one who has been resting in the bosom of the earth for two thousand years. It is as a familiar genius or household god that new deities have not been able to exorcise; and here we see it, fresh and smiling, telling us of the immortal youth and beauty of art.

The most singular, and perhaps the richest of all discoveries, was that of Koul-Oba, in the Crimea, in 1831. In all probability it was the tomb of a king and a queen. What Paris possesses of it—only nine plates—as also what is contained at the Museum of St. Petersburgh, seems to have ornamented some regal garments. But nearly all was meanly stolen, dispersed, and melted.

Most of the sepulchral chambers in the burial-grounds of the Campagna necropolis were pillaged in the time of the Romans, just as the Egyptian tombs were searched and robbed by the first Christians and the Arabs. The numerous earthquakes which broke the vases and urns, and filled them with earth, so as to crack them and nearly destroy them, were powerless to destroy the gold in those places which chanced to have escaped the pickaxe of the thief. Since then, however, the investigating traveller and the antiquary have completed what remained to be done.

It were well if all those who profaned those tombs had drawn such practical lessons and conclusions from them as M. A. Castellani has done. He says: "To ascertain the processes and methods of work used by the ancients was the chief aim of our efforts. We found that all the antique trinkets, with the exception of those which were destined for funeral ceremonies, were made by the application of one piece to another, or of one or more pieces over another, instead of owing their ornamentation to the use of the chisel or the embossing-iron. Here lies the secret of the fact that ancient jewellery has a character quite peculiar

GREEK PENDANT IN FORM OF A MASK

GREEK GOLD EARRING.

GREEK GOLD FIBULA.

GREEK GOLD CIRCULAR FIBULA.

(Campana Collection, Louvre.)

to itself, which borrows its stamp much rather from the spontaneous idea and the inspiration of the artist, than from the cold and disinterested work of the goldsmith's artisan. Even its imperfections and voluntary irregularities give to antique jewellery that artistic aspect so vainly sought for in the greater portion of modern works; these, reproduced with a tiring uniformity, by means of the chiselling and moulding process, acquire an aspect of sameness which deprives our art of that quaint simplicity of which the charm in antique jewellery is so great.

"The first thing to be done, then, was to discover a means of soldering neatly and firmly together a given number of pieces of different sizes. The granulated ornamentation—those little, tiny, almost invisible beads which form so important a part of antique jewels—this presented an almost insurmountable difficulty. We made innumerable attempts, using all the agents possible, and the most powerful process of melting, to make a species of solder suitable for such work. We consulted the writings of Pliny, of the monk Theophilus, and of Benvenuto Cellini. We studied the work of the Indian jewellers, of the Genoese and Maltese; but it was only in a retired corner of the Marches, at St. Angelo, in Vado—a little place hidden in the depths of the Apennines, far from every centre of modern civilization—that we were able to find some traces, in the shape of processes still in use, which must have been the same as those employed by the Etruscans.

"In this region of Italy a special school of traditional jewellery is carried on, resembling sufficiently the ancient art in its actual workmanship, though without the taste or elegance of the designs. The peasant women of these parts wear necklaces and long earrings, called 'Navicelli,' at marriage festivals, not unlike specimens of antique jewellery."

M. A. Castellani ordered over from St. Angelo, in Vado, to Rome, a few workmen, to whom he handed Etruscan jewels as patterns. Heirs themselves of the patient modesty of their fathers, and in no way anxious about mechanical means adopted to secure a geometrically accurate result, they gave to their labours the kind of characteristic ease of style which stamps and identifies the original handiwork. Arseniates were substituted for borax as melting agents, and ordinary solder was reduced to a kind of impalpable file-dust. The use of the punch and the process of casting were entirely laid aside. Judging

from the extreme delicacy of certain portions, it was supposed that they must have been the work of women's hands; so M. Castellani educated and instructed certain workwomen—the while greatly congratulating himself for having conceived the idea, especially with regard to the placing and soldering of that fine granulated ornament which runs in minute cords on the surface-profile of the jewels. "But, however," he adds, as a conclusion—and, we repeat it, this conclusion is that of an artist, of a practical workman, and of an antiquary—"we are nevertheless convinced that the ancients must have had some chemical process by which to fix these intertwistings which is unknown to us, and without which, notwithstanding all our efforts, we have not been able to arrive at the reproduction of certain articles of exquisite minuteness, and which we despair of ever imitating, unless through the agency of some new scientific discovery or other."

In passing from Rome to Byzantium, the centre of the Roman Empire made itself semi-Asiatic. The Oriental influence, therefore, makes itself plainly felt in Byzantine art, and we need no further testimony to that fact than the existence of the accompanying reliquary cross, of copper gilt, with double branches, besprinkled with uncut precious stones. This substitution of gilt copper for gold leaf is already, as it were, the dawn of the economy of a new world. But a still more singular symptom is the introduction of cheap imitations of what we either do not know, or do not care to make. Thus, for instance, laying aside all question of outline or of detail, it is certain that in an antique trinket the tracings of the framework surrounding the stones would have been of granulated ornamentation; now they are merely copper threads or wire hollowed from behind with a punch.

These ear-pendants, which are also of Byzantine work, indicate the prevalency of the Christian religion among the higher classes. For it is not in troubled times that a woman would have dared to wear, ostensibly at least, a jewel marked with a cross. By that time, it is true, the ancient world had fallen.

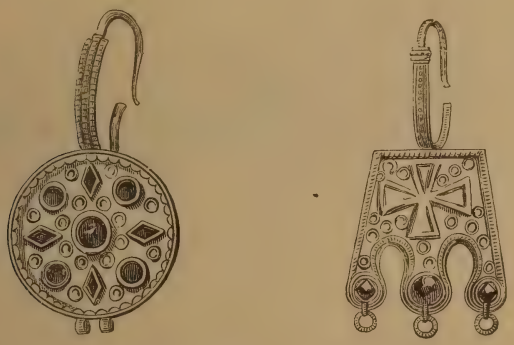
We read in Constantine Porphyrogenitus the description of the heaps of marvellous jewels in the Church of St. Sophia, and in the palace of which it formed only a dependent part, accumulated by Justinian and his successors. Other manners, other customs, garments, and ornaments, succeeded them. Literature and the arts both sank into utter

RELIQUARY CROSS OF GILT COPPER.

(Specimen of Byzantine work. In the Musée des Thermes et de l'Hôtel de Cluny.)

Page 310.

darkness for a time, and Europe soon after could no longer read or write. The luxury of the Emperors of the East assume a barbaric splendour. Their thrones are guarded by automaton animals of gold shining with enamels and precious stones, who mew and howl with quaint contortions. A school of rhetoric, treating speech as an empty pastime, succeeded to that noble harmony of the Greeks which was made up of symbols and abstractions. What is left us of that period is barbarous and rigid; the Emperors seated on their thrones resemble mummies that have come to life again, with eyes as keen and sharp as those of a falcon. The diptychs, gospel books, shrines, clasps, hinges, crosiers, medals, and ivories of that day have a rude, unpolished character. Except in the scarce instances when the flame of Greek art



EAR-PENDANTS OF GOLD. BYZANTINE WORK.
(In M. Charvet's collection.)

still shed some hallowing rays over it, all that period of the Lower Empire brings to mind Mexican art with its monstrously bizarre gods and deities.

Then came the year one thousand—a fatal year to Christianity and human society. It was only in the middle of the eleventh century that art began to put forth shoots and buds. Germany, that Rhenish school to which, as we have already stated in our chapter on Enamels, is attributable the first symptoms of the awakening, shows that it had accepted the Byzantine tradition; nevertheless, the Rhenish school had modified it a little. Thus, in adapting monumental forms to the proportions of household furniture—an altar-shrine, for instance, made in imitation of a church or chapel—it did not shrink from breaking the severity of the lines with here and there

a leaf ornamentation, or substituting for the solemn, powerful effect of a full arch a trilobed arcade, in the form of a trefoil. The character of the Byzantine altar-shrines reminds one of a coffin or cenotaph.

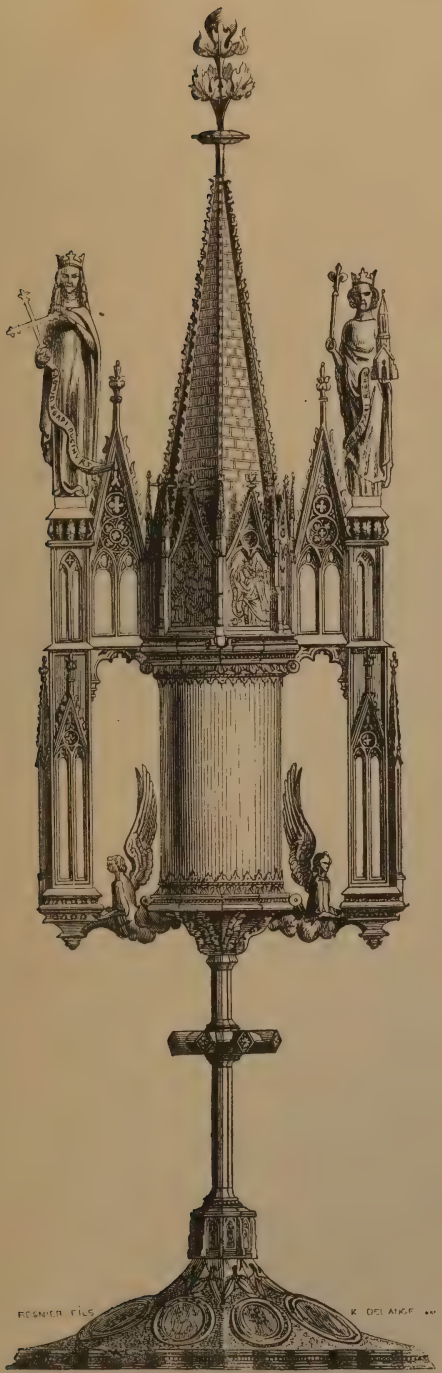
The imitation in metal of stone constructions, mean though it was under the Renaissance, burst forth in the Middle Ages in charming specimens, such, for instance, as the reliquary of the treasures of Basle, now in the collection of Count Basilewski—our reader will meet with a representation in our pages. The inspiration is exquisite; the body of the shrine, destined to receive the wood of the Holy Cross, or the bones of martyrs, is like the vault, or at least the chancel; it starts from the ground; the two saints, which have for a pedestal what might be compared to aisles or chapels, rest upon the arms of two angels, half-enveloped in cloud. But, as M. A. Darcel has observed, in his clever work on the Renaissance chalices of the "*Eglise Saint-Jean-du-Doigt*," the articles we owe to the Middle Ages are always, or might be, put to a practical use.

Let us interrogate France as to what she could do at that time. Jewellers from Lorraine were, under the eye and supervision of the Abbé Suger, making marvellous things, which, benefiting by its long dynastic past, France still possesses in a perfect state of preservation in the collection of the gems and jewels of the Crown.*

MEROVINGIAN EARRING.
(In M. de Charvet's collection.)

The accompanying earring, whose Frankish and Merovingian origin is undoubted—would it not seem to have been unhooked from the ear of one of our peasant women from the Isle of France or from Picardy? Unfortunately, now that the enormous productions of the central Paris have the preference, both in cheapness and attractive novelty, the little provincial jewellers have given up working at all, so that, a few years hence, all originality of conception or design will have totally disappeared. The variations of fashion have never been more sudden or more abrupt than they are now. Jewels, like female dresses, will shortly endure no longer than the flowers of a season.

* Gemmes et Joyaux de la Couronne.



RELIQUARY OF THE ANCIENT TREASURES OF BASLE.

(Thirteenth Century. Collection of Count Basilewski.)

Without intending it, we more and more tend towards the imitation of the people of the African coast, who are the terror of merchant captains. We start with a cargo of well-assorted bits of glass and pebbles. We land on the coast of a small kingdom, where negroes are bred instead of oxen for the sovereign. Some morning the negress who leads the fashion among them takes it into her head that scarlet as a colour is ugly, and that blue is more becoming to her style of beauty. No sooner is this conclusion arrived at than the community hurries to the waterside, roots up, breaks, tears, and throws into the water all that does not chance to be blue; and if the next unhappy vessel touching at that shore does not happen to have blue material on board, the captain of it may rest assured that neither gold-dust nor elephants' teeth will be bestowed on him!

But, apart from the tyranny of fashion, of which, like ourselves and the negroes we have just mentioned, our ancestors were the victims, they have graver excuses on their side, such as the rough tempests they had to encounter, civil wars, English occupation, religious wars, political revolutions, and famines.

We must not lose sight of this fact—and we will return to it later in strengthening our view with a quotation we have borrowed from M. Léon de Laborde—that the art of increasing the value of money by means of fictitious interest was as yet only just thought of, or, at least, that property had then to be represented, not by paper, but by landed estates or metals; and thus it is still, in one sense, for a fraction of the capital of the Bank of France is kept in its vaults encased in a metallic coating. Precious stones, gold, and other jewellery then constituted the entire fortune of kings, lords, and gentry. But the twelfth century, the period when Suger made the masterpieces of art of which we are about to speak, was dominated by the religious spirit; there was the almost inconceivable wealth of the Church.

Suger, born of humble parents, became in 1123 the head of the convent of St. Denis. It had harboured and lodged him when a child and unprotected. Minister and counsellor to the Kings Louis VI. and Louis VII., he was invested with the regency of the kingdom during the second Crusade. In 1152 he died, bearing the touching appellation of "Father of his Country," which Louis VII. had bestowed on him, notwithstanding his having been, what kings seldom forgive, a firm and independent counsellor. He had strengthened

the regal power, externally by preaching and preparing a Crusade, of which his death hindered the departure, and internally by decreeing wise laws and practising an inflexible justice. He had especially protected those of the rank whence he himself had sprung. He had managed the public finances successfully, by encouraging commerce, which renders them fruitful; and, lastly, he liked and appreciated the arts, having occupied himself in ornamenting and adorning the house of God with the help of those immense riches which his strict piety and economy left him at liberty to dispose of as he would. A man of sense, as well as of vast intelligence, he had understood the refining and emancipating influences circulated by the arts. When the austere St. Bernard was thundering out against the luxuries of the Church, Suger mildly replied in his "Livre de son Administration:" "Let each judge in this matter as seemeth him best. If, in the ancient law, the commandments of God and of the prophets ordained that vessels and cups of gold should be used for libations, and to receive the blood of the rams, heifers, and goats which were offered in sacrifice, how much rather should we devote gold, precious stones, and the rarest of materials, to those vessels which are destined to contain the blood of our Lord Jesus Christ?"

His first care after having rebuilt the Church of St. Denis, was himself to order its furniture. Of this the Louvre possesses several valuable pieces. First there is a paten for a chalice, a sort of saucer of olive-green serpentine, encircled with a rim of gold, which is set with rough and uncut stones, and in which—no doubt the workmanship is Persian—are engraved two rows of little golden-fish. Then comes a crystal vase, doubly precious on account of its being in all probability an antique, mounted in silver gilt; the filigree ornaments binding together the pearls and precious stones of the rim and feet are of the purest design; the body of the vase has been cracked, but its original shape is unimpaired. It was the gift of Queen Eleanor d'Aquitaine to her affianced husband, King Louis le Jeune. There is also an antique vase of sardonyx, in the form of a cruet. A fourth article is the vase of which we subjoin an engraving. It is an antique in red porphyry, which the treasurer of the convent kept in a case of its own. Whence did it originally come? From Rome perhaps; out of the treasures that the Emperors pillaged in their last invasions of the Barbarians. Charlemagne's historian,

Eginhard, remarks that, "the Franks justly deprived the Huns of that which the Huns had unjustly taken from other people." This vase was in the shape of a straight urn; perhaps it had been shaped and polished by Egyptian stone-cutters. In order to transform it into a reliquary, Suger had it recast into the shape of an eagle. The head is admirably noble and energetic, the wings, forming the handles, are exquisite in finish, the claws are true to Nature,

ANTIQUE VASE IN THE TREASURY OF THE ABBEY OF ST. DENIS.
(Mounted anew by Suger's goldsmiths. Now in the collection de Gemmes et Joyaux de la Couronne at the Louvre.)

and the tail, on which it rests, outstretched and touching the ground, forms its base. Around the neck, and fixed to the top of the wings, is a scroll bearing the dedicatory inscription in Latin. I do not think that any school of jewellery can ever have modified an article of stiff rigidity to serve other purposes better than was here done.

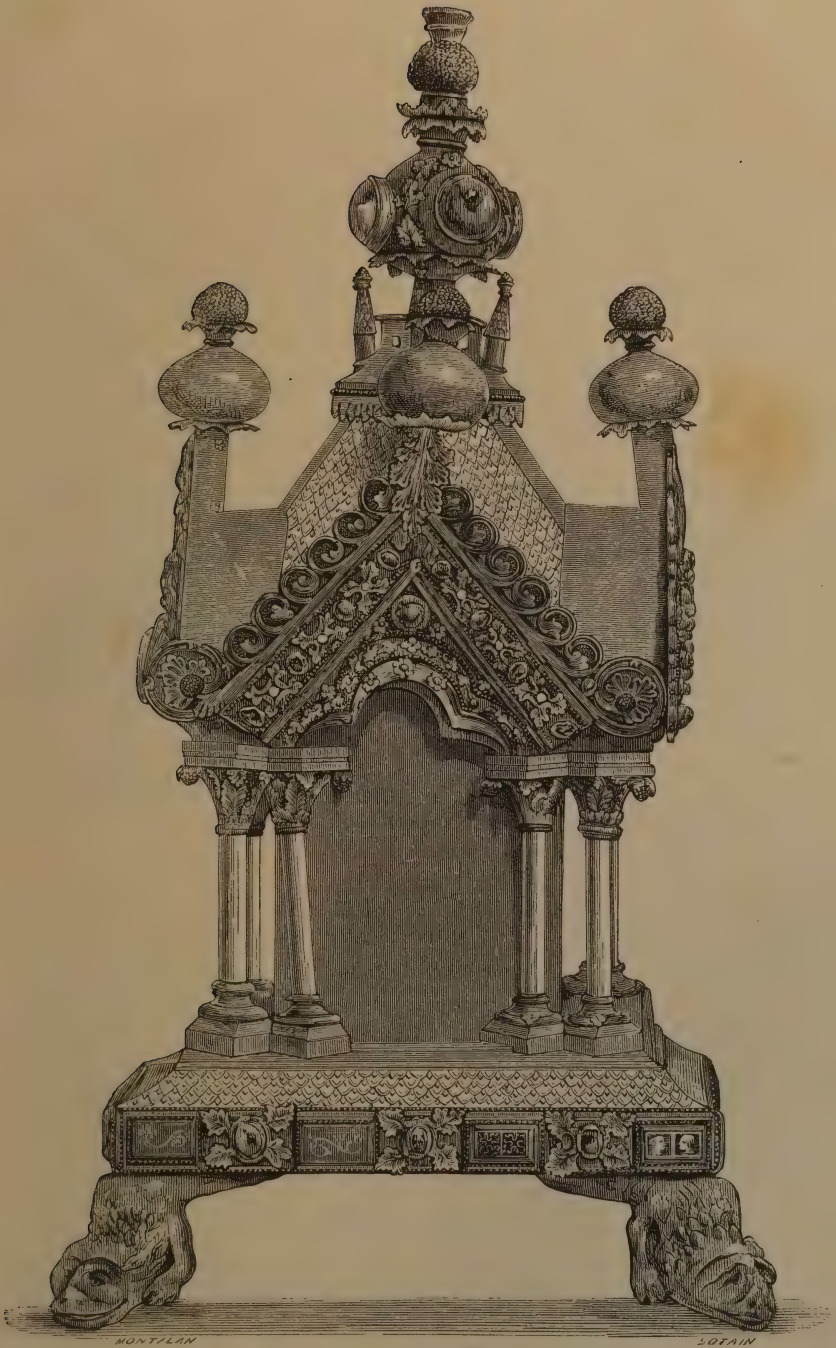
It is in these interpretations, as audacious as they are intelligent,

that French genius chiefly shows itself, for the goldsmiths who worked under Suger's orders were from Lorraine.

We have mentioned all that is left of the articles made by command of Suger, and of which he has kindly left us a list and description; but how many of them must have been destroyed! At the end of the choir of this church he had erected after 1144 a tomb destined to receive the ashes of St. Denis and of his two companions, which were lying in silver coffers ever since the time of Dagobert. Kings, bishops, princes, and civilians, all were anxious to contribute to the embellishment of that tomb; the altar-piece alone, studded with numberless stones of great price, had cost forty-two marks in gold, while the description of the shrine, which contained the three sarcophagi, occupies twelve folios in the catalogue of the treasures of St. Denis.

Two convents, that of Citeaux and that of Fontevrault, spontaneously proposed to hand over to Suger, for a sum considerably below their real value, a large collection of sapphires, hyacinths, rubies, emeralds, and topazes, which they had obtained from the munificence of Count Thibaud, nephew to the King of England. Suger looked upon this disinterestedness in the light of a real miracle.

He seems to be thanking God for it in the kneeling figure of himself which he had made in high-relief, and placed at the foot of a crucifix resting on a column of gold. That crucifix and that column, the magnificent beauty of which dazzles the eyes of the reader's imagination when he reads the description of them in the book, were consecrated at the Easter festivals by Pope Eugène III. The sentence of anathema against those who would lay a sacrilegious hand upon it saved it for the first time when Philip of Valois, exhausted by the war with the English, asked for the golden crucifix, whose intrinsic value must have been enormous. Chance was its next protector, when the Huguenots pillaged the convent. But the heads of the League in 1590, that is to say, the Pope's legate, the Duke of Nemours, and the Provost of the Merchants of Paris, believed themselves specially privileged to take possession of it, and transform it into golden ingots. And yet the sentence of anathema was not withdrawn. "And it is to be observed," writes Jacques Doublet in his "Histoire de l'Abbaye de St. Denis," "that he who ordered the crucifix should be taken, however great he might be, before the year was out felt the effect of this anathema and censure fulminated, and



RELIQUARY OF COPPER GILT.

(German work of the Twelfth Century. In Mons. Basilewski's Collection.)

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not in vain, by the vicar on earth of Jesus Christ, inasmuch as he died a violent death, full of rage and fury, in the ripe flower of his age, and in the midst of his schemes and enterprises, without mentioning the other afflictions with which it pleased God to visit him."

The influence of the Abbé Suger on decorative arts was decisive and beneficial. His is one of the calmest faces that the first emerging from the obscure periods of the early Middle Ages has revealed to us. We are inspired with none but profound respect for this priest, who upholds the cause of the ideal even under the storm of St. Bernard's eloquence; this broad-minded administrator, a genius essentially national, who might have summoned artists and workmen from Byzantium to work gold for him, but who preferred to encourage the growth of purely French art. It is under the name of a great politician and an able disposer of national finances that he is generally mentioned; but when our academies, instead of useless and wearisome dealings with foreign æsthetics, conscientiously investigate the history of the glories of France, Suger, far more justly than many another, will deserve the title of restorer of the fine arts in France.

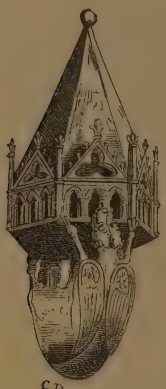
His example was all-powerful; not only the bishops, who were his contemporaries or his successors, imitated him in proportion to their riches; nor did they disdain to follow the example which had already been set them by St. Eloi.* Towards the latter end of the twelfth century, an abbot of the monastery of Audernès, in the diocese of Boulogne, Guillaume by name, is mentioned as successfully exercising the goldsmith's art. England took a great part in this movement. The South Kensington Museum has possessed itself of a curious candlestick in bronze, cast by the cire perdue process already described, which came from Gloucester Abbey;† in the ornamentation of the stem and nozzle is an intertwining of monsters and human figures, which symbolize the promiscuousness of vice by acts, the evidence of which is repulsive.

In the French thirteenth century, religion still reigned victorious. Shrines and reliquaries ceased to be made in the shape of oblong coffins, but became miniature copies of churches, in gold or silver. Bas-reliefs and figures increased in number. This was the climax of religious goldsmith's work, and even our modern goldsmiths have not surpassed those of that century.

* St. Eloi was the patron saint of the goldsmith's craft.

† It was purchased at Prince Soltikoff's sale in Paris.

Then the luxury of table-plate and ornaments began to make itself felt. The button on the cover of a drinking-cup which belonged to the Duke of Anjou consisted of a low fortified tower, on which a man, like an impostor who has taken possession of a pulpit, stands playing on a flute. M. Jules Labarte, whose labours on this period of our industrial fine arts are conclusive, reminds us that Rubruquis, despatched by St. Louis to the Khan of Tartary, met with a Parisian goldsmith of the name of Guillaume Boucher; he had established himself in the service of that prince, and had made him a fountain after the French fashion, which weighed three thousand silver marks; it represented a large tree, around which four lions were vomiting liquors; an angel stood on the summit of the tree bearing a trumpet, which, when a particular spring was touched, he raised to his lips. The sultans and pachas of modern days still seem to inherit from the Khan that childish passion for automatons. When Abd-ul-Medjid died at Constantinople, all the furniture of every room in all the palaces of the seraglio were invaded with picture-clocks, where you see a ship struggling against waves made of thin muslin, with shrubs, on which are placed singing humming-birds, and with figures of magicians, who perform their wondrous feats at stated times.



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GOLD RING.
Jewellery of the thirteenth century.
(Basilewski collection.)

JEWISH RING.
Jewellery of the fourteenth century.

The fourteenth century it was which first saw the advent, in the construction of royal or princely palaces, of the "jewel-rooms" ("chambre des joyaux"). That of Charles V., whose treasure after his death was estimated at nineteen millions, was at the Louvre, and measured nine fathoms in length and four and a half in breadth. We have been shown at Bourges, in the house of Jacques Cœur, the treasure-room of the celebrated and too-unfortunate silversmith of the most ungrateful of kings.

The accessions of new monarchs were made the opportunity for an incredible display of luxury. We read in Froissart the description of the festivities held in Paris on the occasion of the accession and

coronation of the Queen Isabeau de Bavière in 1389. At the second "Porte St. Denis" (which is now no longer in existence) "are two angels, bearing in their hands a very rich crown of gold, studded with precious stones, and this they gently deposited (*moult doucement*) on the head of the Queen." Then, "on the Tuesday, as the clock struck twelve . . . . on a litter borne by two strong men, very suitably dressed as savages, there were four pots of gold, four gold ladles, and six gold dishes," which the gentry of Paris presented to the King at his Hôtel St. Paul. The presents to the Queen, the Nef scent-bottles, bonbon-boxes, salt-cellars, pots, gold basins, lamps, silver dishes, and trays, &c. &c., were carried, also on a litter, by "two men, who were dressed one in the similitude of a bear, and the other in that of an unicorn." The third present, made to the Duchess of Touraine, Valentine de Milan, when she had just married the King's brother, Louis d'Orléans, "was brought in like manner into the Princess's chamber by two men dressed as Moors, with faces painted black." These presents cost the Parisians upwards of 60,000 crowns in gold; but France has always been ready to pay for her whims.

"The goldsmith's art," writes M. Léon de Laborde, in the preface of his "Notice des Émaux du Louvre" (which lent the tone to all modern catalogues), "in the fourteenth and fifteenth centuries played a larger part than one can well imagine in the reading of historians; the study of the statutes of the trade and the series of ordinances regulating its fabrication, strike one with astonishment when studied in relation to the accounts of the Kings of France, and the Princes of the blood, in their inventories, and in those of the churches, in marriage-settlements, and in testamentary documents. We learn by these documents the prominent place occupied by goldsmith's work in manners, customs, pursuits, tastes, applied as it then was to dress, furniture, and armour, and, in short, to the embellishment of life generally. The enormous sums it represented made the luxury of prosperous times; in them, too, lay the resources in times of war and trouble. In short, it formed the entire possessions of kings, princes, and lords. . . . When troubled times of crisis came, when a war had to be sustained, or a ransom to be paid, a money-changer was summoned, large chaldrons of gold or silver were melted down, and money was borrowed on private jewels and trinkets. If children had to be settled in life and a dowry given them, it was the 'jewel-room' which

furnished the required sum. And more: in every-day life, scarcely a day passed without a dive being made into one's treasure to make a present of jewellery, a golden drinking-cup, or a simple gilt dish, to some favourite or relation, a foreign ambassador, a messenger bearing the tidings of some victory or defeat, or to the modest outrider, who came as fast as his horse would carry him to announce the birth of a son or a nephew." This picture is all the more to be trusted that M. Léon de Laborde has drawn his information from the researches priceless to the history of our arts, published by him, concerning the "Lists of Accounts of the Courts of the Dukes of Burgundy and of the Valois."

This excessive splendour and these magnificent displays sank with the supremely feudal period. Louis XI. especially made large loans to the saints when in precarious circumstances. He lent heavy sums to Heaven, at a high rate of interest, claiming for a dividend indulgence for himself and confusion to his enemies. "St. Martin de Tours" was the one of Heaven's bankers in whom he reposed most confidence; he caused a silver railing, of enormous value, to be placed on his tomb.

The pillage in May and June, 1562, by the Huguenots—who in all likelihood were not alone engaged in that expedition—of the reliques and treasures of the metropolitan church of the Gauls, that of St. Martin de Tours, produced about 5,000,000 of our money.* But even this is only the estimation of the intrinsic value of the gold, the silver, and perhaps of the precious stones. The artistic value and the costly workmanship do not figure in it.

Before we pass through the sixteenth century with Benvenuto, who hammered old iron at the corners of the streets, journeying from town to town, we will devote a few lines to the denomination of the various and sumptuous articles which decorated the dressoirs of that period. We shall be assisted by the lucid notes of M. Henri Barbet de Jouy, in his valuable publication, the "Gemmes et Joyaux de la Couronne," which is a sort of album illustrated from the cabinets of the "Galerie d'Apollon" at the Louvre. "Le Drageoir" was the bowl or basin in which preserved fruits, either dried or in syrup, sweetmeats, and preserves generally were served. It was placed on the sideboard or dressoir, handed round at table, and often furnished with a certain number of spoons. Some of

* Francs.

these "Drageoirs" are extant, made of Oriental jasper, rock-crystal, gold, silver, enamel, &c. The "Aiguière," or ewer, a vase intended to hold the water before it was poured into the tumbler or drinking-cup, was often made in the quaintest possible shapes, such as a man seated on a winged serpent, a cock, a lion, a siren, or a bird; the Duke of Anjou had one thus fashioned: "The tail of a griffin was twisted back between his ears; at the end of the tail there grew a sort

EWER OF PEWTER, THE WORK OF FRANÇOIS BRIOT.
(In M. Dutuit's collection.)

of rose; in the middle of the rose was an opening by which to introduce the water; the mouth of the griffin formed the spout." Some of them too were made of pewter; but as it is not our intention here to touch on the subject of pewter, however interesting the subject may be to many, we will give a place to the solid and massive tankard by François Briot, who worked under Henry II. The "Hanap" was the drinking-cup. M. Jules Jacquemart en-

graved one which is now in the possession of the Louvre; it is of rock-crystal, and represents a large fish, a carp, supported by a stand placed under its belly. The "Bottle," in the form of a decanter, was an innovation of the sixteenth century. The "Nef," also called "Cadenas," because it generally locked with a key, was primarily made in the shape of a ship. It was placed on the table opposite the king or lord, and, through the fear of poison, which then played so active a part, it was destined to contain spices, drinking-cups, spoons—in fact, all the articles for daily use—in short, a sort of portable cupboard; when made very small it was called "Navette." It continued in use, subject to infinite varieties of shape and size, until the end of the monarchy; and we find it again on the table of Louis XV. at the conclusion of this chapter. The "Fountains," which contained several sorts of wine and liquor, were, as we have seen in reference to the Khan of Tartary, articles of considerable dimensions. The "Salières," or salt-cellars, also affected all kinds of shapes. We have mentioned some in Oiron ware in our chapter on Ceramic Art. Benvenuto has afforded us the opportunity of engraving one, that we reproduce a few pages farther, in our mention of him. Salt in these days suggested particular misgivings as a vehicle for poison; and as the tongues of snakes enjoyed the reputation of giving warning of the presence of poison, some of these were represented suspended to the branches of a tree, sniffing at the salt.

The Italian Renaissance was like the blooming of a spring flower, with its conquering grace, brightness, and perfume. France was, as it were, intoxicated with it.

The sixteenth century closed with Nicolas and John of Pisa, who finally broke with Byzantine tradition. Two schools, one at Sienna and one at Florence, monopolize Italy between them. The goldsmith's art blends itself with that of the sculptor; and this it is which lends to the first fine statues of the fourteenth century their look of finish and superb refinement. Cione, the father of the famous painter, sculptor, and architect, Orcagna, worked at Florence for the baptistery of St. John, on which so many other illustrious masters also bestowed their touches. The list of his pupils and successors winds up with the name of Philip Brunelleschi.

In the fifteenth century it was Lorenzo Ghiberti, who, at the age of little more than nineteen, came out first at a competition set on foot

VIRGIN AND CHILD.

(Reduced copy in bronze of a marble by Michael Angelo. In Mons. A. Thiers' Collection.)

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by the corporation of the Merchants of Florence, for the execution of the two great doors of the baptistery, and yet Brunelleschi, Donatello, and Jacopo della Quercia were his competitors! Andrea del Verrochio, who died in 1488, did not abstain, even while casting his admirable statues of David and of Colleone, from occasionally using the goldsmith's hand-vice; and in his studio and workshop was formed the mind of Leonardo da Vinci, himself perhaps the finest, but certainly the most universal of the geniuses of art.

Antonio del Pollajuolo was a goldsmith, painter, sculptor, and engraver. He was emulated by his contemporary, Maso Finiguerra, whose niellos serve as a starting-point to iconographers in their primary sketches for engraving on metal.

It was in the days of Cosmo de' Medici that a goldsmith of Florence, named Thomaso Bigordi, accepted as his definitive title the nickname of Ghirlandajo, "maker of garlands," to which he owed his subsequent ability and success.

He made for those slender Florentine damsels, whom his illustrious son, Domenico Ghirlandajo, transformed into saints and celestial messengers, the light jewels of gold or silver, whereof a circle sustained the hair, and formed a delicate knot on the forehead. Michael Angelo, who was the pupil of Domenico Ghirlandajo, was careful not to despise this slight chaste crown, which on fair women seemed to lose itself amidst the luxurious tresses, asserting itself only by the shadow it cast. We still find traces of it on the brow of the Virgins stooping over their Divine Son, and holding him to their breast with an abstracted air.

Francesco Raibolini, surnamed La Francia, was also a goldsmith—at the same time a painter of the first order, if it be indeed he who painted that chef-d'œuvre of the "salon carré" at the Louvre, showing a young man dressed in black, leaning over a balustrade in profound meditation. The Academy of Fine Arts at Bologna has preserved two niello paxes, on which, at the place to be saluted by the faithful, Francesco has represented the Crucifixion and the Resurrection. He was Governor of the Mint in his native town.

About this time the activity and enthusiasm of the Italian mind, especially in the north, was at its highest. And what an ardent flame it was that devoured these powerful artists! No rest, and yet no fatigue! But what an erudite public they had, consisting chiefly of

scientific men, poets, popes, princes, courtiers, men of refined tastes, and captivating cultivated women. We shall find in the "Memoirs" of Benvenuto Cellini, whose work as a goldsmith opens the sixteenth century, and fills it with interest, the names of the master jewellers (a list of them would here be out of place), his predecessors, his masters, his rivals, and his pupils.

These "Memoirs" form a romance full of incident and amusement; they present a life-like picture of Italian manners and customs at the time when the higher sentiment in art was on the decrease. Benvenuto Cellini wrote them when in retirement, and on the verge of old age. It is at the age of fifty-eight that, when tired of using, or rather abusing, the hammer and the chisel, weary too of holding the sword and the dagger, his fevered hand took up the pen to review his past life with a *verve* of boastfulness and cynicism that it would be unjust now to judge with the cold and placid eye of modern days. We certainly cannot sympathise with the writer of these pages. His writing is alternately violent, ecstatic, and bitter; nor do we anywhere find a triumphant masterpiece in any of the works which have survived him; but we must make allowance for certain inherent defects in the Italian race, and not separate the man from the corrupting atmosphere he lived in. We are bound to remember that the signal for poisonings and murders of all descriptions came from those who occupied the highest seats in society; perjury and violence were then met with in holy habitations. Cellini felt that he might commit flagrant crimes with impunity. The man therefore arrests our attention almost as much as the artist.

Benvenuto Cellini was born at Florence in the year 1500, in the night which followed All Saints' Day (that is, November 1st). His mother's name was Elisabetta Granacci, and his father's Giovanni Cellini. His ancestors were among the gentry of the Val d'Ambre, and followed the military career; his grandfather, however, was an architect. His father studied drawing, and the science of engineering; he appears to have been an excellent performer on the flute, and was for a short time flautist to Lorenzo de' Medici; he made some admirable wooden organs, and the finest and best spinets ever seen, violins, too, and lutes and harps of a rare beauty and perfection. According to his son, he was the first Italian who worked ivory well. "He made," says Benvenuto, "a mirror in bone and ivory about a cubit

(18 inches) in diameter, ornamented with leaves and flowers, whose design and degree of finish were admirable. This mirror represented a wheel; in the middle was the glass, and round it seven circular frames containing the seven Cardinal Virtues, carved in ivory and in bone dyed black. The mirror was so placed relatively to the figures that when the wheel was turned round the Virtues were always brought straight out, thanks to a counterpoise under their feet."

COAT OF ARMS OF THE CELLINI FAMILY.

Among the earliest recollections of our hero —who was christened *Benvenuto, Welcome*, because his birth was so anxiously awaited by his parents – is a reminiscence of his father administering to him a severe box on the ears, in order to impress on his mind the singular spectacle of a salamander disporting itself in the midst of a fire, and of his trying to make a musician of him.

Nevertheless, when still young, and moved by earnest supplications, he went as an assistant in the workshop of the father of Bandinelli, the sculptor, whose name was Michael Angelo, the first Florentine goldsmith of his day. He stayed there but a short time, and to his great sorrow and regret he recommenced playing the flute.

"At the age of fifteen," he says, "contrary to my father's wishes, I entered into apprenticeship with a goldsmith called Antonio di Sandro, and surnamed Marcone. He was an excellent workman. My father refused his consent to his giving me a salary, as he did to his other apprentices, because he said I was only learning the art for my own pleasure, and he wished me only to draw and work at what happened to please me. This I did very willingly, and my worthy master was delighted with my productions. He had a natural and only son, whom he not unfrequently ordered to assist me. Thanks to my desire to excel and to my good disposition, I contrived, in a few months, to rival good, nay, the best goldsmiths' work, and very soon I began to reap the fruit of my work. I did not omit, however, to play on the flute and horn occasionally, to please my father, who never heard me without shedding tears and sighing profoundly. Many a time, in order to make him happy, I went as far as to try and persuade him that the study of music was a great pleasure to me."

But soon his blood began to heat itself. Benvenuto, at sixteen, seeing his brother fight a duel, rushes up, sword in hand, rescues him, and is exiled to ten miles from the town for the space of six months. He starts with that same brother, taking for his sole possession and baggage the blessing of old Giovanni, his father; at Sienna a worthy goldsmith of the name of Francesco Castoro receives them. He next goes to Bologna, and enters the shop of Maestro Ercole del Piffero, and thence to the house of a miniature painter, named Scipio Cavaletti. There he draws designs; and, cultivated by a Jew, he begins to make a little money.

He then returns to Florence, and starts again for Pisa, for his veins seem full of quicksilver. He works at the house of a goldsmith named Ulivieri della Chiostra. "During the year that I spent at Pisa," he writes, "I greatly improved in my work, and I turned out a few fine pieces of goldsmith's work that did but inspire me with the desire to persevere and do more." He naturally visited the Campo Santo. "There," he says, "I found a mass of antiques of rare beauty, such as marble sarcophagi; also in many other parts of the same town I met with numbers of ancient ornaments, and devoted all the time I could spare from my work at the shop to examine them." Here was a noble field for study! It is to such hasty sketches from the fragments of these *chefs-d'œuvre* which had served for rough stone supports for the scaffolding of houses, or had once been milestones and landmarks, like the Pasquino at Rome, that the Renaissance owed its originality, suppleness, and strength. Later on pupils emulated their masters, and the school flourished vigorously.

After a violent illness, of which he was cured through playing a beautiful air on the flute, Benvenuto re-enters the shop of his old master, Marcone.

At this period (1518) there lived at Florence a sculptor named Pietro Torregiano; the same who inflicted that blow with his fist which was violent enough to break the bridge of Michael Angelo's nose, thereby giving his countenance the aspect of a lion's face. He had lately come from England, "and was incessantly speaking of his valiant deeds when among those animals, the English." Cellini, finding him more of a blusterer than himself, grew weary of him, and separated himself from a master whose reputation was already established, and who tried to patronise him. He became intimate, on the other hand,

with a fellow-workman of his, the grandson of the illustrious Fra Filippo, and the son of Filippino Lippi. Between these two so great an affection sprang up that they parted neither by day nor at night. "His house," writes Benvenuto, "was full of books containing precious studies, which his worthy father had taken from Roman antiquities. I became a perfect enthusiast during the two years that I spent with Francesco."

At this period too it was that he executed, amid shouts of applause from his comrades, in the workshop of Francesco Salimbene, a silver bas-relief no larger than a child's hand. It was then the fashion for men to wear clasps of these dimensions to their belts. Cellini had chiselled thereon antique leaves, intermixed with children and grotesque figures. The belt itself, three inches in width, when ornamented with figures was called a *chiavacore*.

But these precocious successes were insufficient to fix a vagrant and capricious nature such as his. One afternoon he meets with Augustin Tasso, himself a carver of wood, and, like Benvenuto, the possessor of few resources and but little experience, upon which they mutually defy one another to go to Rome. No sooner said than done. When there he places himself in the employment of Giovanni da Firenzuola, a goldsmith of Lombard origin, who chiefly excelled in working gold on a large scale. This man received him kindly, and instantly set him to work on a magnificent piece of silver plate destined to be the property of a cardinal. It was a small coffer, copied from the one in porphyry which stood before the door of the Rotunda. "I decorated and enriched it," says Cellini, "with such beautiful little masks and faces of my own invention, that my master went and showed it to all his colleagues, congratulating himself that so admirable a piece of work had come out of his shop."

In so doing Firenzuola acted imprudently. One fine day one of his colleagues, named Paolo Arsago, conceived the idea of enticing his brilliant pupil away from him; and the wild youth, ever fond of change, fell in with it readily.

Two years afterwards we meet with him again, making large sums of money, with Francesco Salimbene. He is then thinking of setting up business for himself; and to this end he hires the half of Gian-Battista Sagliani's shop. But his dagger will not rest in its sheath, and we see it thrust itself, as it were of its own accord, into the bosom

of a young rival; so here is our matamore again forced to fly for safety. He starts for Rome, which had just received Clement VII. as Pope and as sovereign. There Lucagnolo da Jesi, a goldsmith of whom Benvenuto thinks highly, receives him into his workshop, where he also makes the acquaintance of one of Raphael's pupils, Il Fattore. By the latter he is presented to the Bishop of Salamanca, a generous promoter and protector of the arts, but a Spaniard, passionate and hasty to the highest degree. This prelate gives him, as also to Luca Agnolo, an order for one of those large ewers which we imagine can only have been used to ornament the credence tables; it was to be made from the drawings of Francesco Penni, Il Fattore. For this he is only paid through an audacious trick.

He worked successively for the Cardinals Cibo, Cornaro, Ridolfi, and Salviati. For the Gonfalonier Gabrielo Ceserino he chiselled on one of those enseignes or gold medals which were then worn on the hat, the pagan fable of Leda and Jupiter. The Cabinet of Antiques at Vienna still believes itself to be the possessor of this trinket; it is a medallion of gold, enamelled; the figures—including one of Love, who is standing smiling—are in high relief, coloured with enamel; they are so raised as to detach themselves almost entirely from the background.

While at Rome he had profoundly studied the works of Raphael and Michael Angelo. His self-approbation had increased in consequence, but not this time without good reason. But it soon grew so prodigiously as to exceed all bounds, and here seem to have commenced his attacks of the fever of vanity and conceit. He tries to vie with a celebrated goldsmith of Perugia, named Lautizio, and this is the reason why: "Each cardinal at Rome has a seal, on which his coat of arms is engraved, together with numerous other figures; these seals are about the diameter of the hand of a child of twelve; when well done they brought a hundred francs or more." Lautizio excelled in making them, but he could do nothing else; Benvenuto tried to eclipse him, but he admits that he met with very great difficulties in studying this special branch of his art. Then he affects to work enamel as well as Amerigo of Florence; and lastly he mentions a rival whose great merit he is obliged to allow (notwithstanding his reluctance to eulogise others), a Milanese named Caradosso, whose "little chased medals and paxes in relievo, and whose crucifixes of the dimensions of a palm, in plates of very thin gold," actually kept him awake meditating on them.

But the plague burst out all over Italy and reached Rome. Orders were stopped, and Benvenuto, in order to kill time and amuse himself, went out shooting pigeons in the country with a blunderbuss. His remarkable aim has only been equalled by a famous novel writer of our day, who bears more than one point of resemblance with our boastful hero. "It was in giving myself up to this agreeable pastime," adds Cellini, "that I scraped acquaintance with certain antiquaries and curiosity-seekers, who made it their business to watch for the Lombard peasants, who, at a certain time of the year, came to Rome to dress the vines. These peasants, in digging the earth, were sure to meet with coins, agates, cameos, &c. &c., which they sold at a very low price to my antiquarian friends, who would then sell them again to me for more pieces of gold than they had expended in pence. I then sold them again, and besides bringing me a benefit of at least a thousand per cent., they won for me the notice and friendship of all the cardinals in Rome." Among other curiosities, Benvenuto thus picked up the head of a dolphin in emerald, the size of a bean; a topaz as large as an enormous hazel-nut, representing a head of Minerva; a cameo, of Hercules leading Cerberus in chains, "a specimen of such perfect workmanship that our divine Michael Angelo affirmed that he had never in his life seen so great a marvel;" also a number of bronze coins—among others was a profile of Jupiter.

"About this time," he says, "I chanced to become possessed of certain little Turkish daggers, the handles of which, together with the guard and the blade, were of steel, ornamented with beautiful Oriental leaves, engraved with a chisel, and inlaid with gold. This kind of work materially differed from any which I had as yet practised or attempted; nevertheless, I was seized with a great desire to try my hand at it, and I succeeded so admirably that I produced articles infinitely finer and more solid than those of the Turks. There were several reasons for this. One was that I cut my steel deeper, and another that the Turkish leaves consisted only of colocassia leaves, and of the flowers of the *Corona solis*, which, though not devoid of elegance, are not so gracious to the eye as ours.

"In Italy we copy various kinds of leaves. The Lombards make beautiful wreaths composed of ivy leaves and briony, with their beautiful intertwinings. The Tuscans and Romans have had a still happier inspiration; they reproduce the acanthus leaf and flower, which they

twist and twine in a thousand graceful ways, intermixing birds and animals here and there among them. These are the manifestations of a fine taste. They also make use of wild flowers, such as that which is called snapdragon. Famous artists among us intersperse these flowers with a number of quaint ornaments, termed by the ignorant "grotesques." Moderns have called them thus because it was at Rome that antiquarians first discovered models of decoration of this sort, in caverns which were formerly sitting-rooms, studios, bath-rooms, or apartments of that description, but which, through the rising of the soil, had become buried in the course of a long succession of years. As these subterranean structures are known at Rome by the name of 'grottos,' so the ornaments contained in them got the name of 'grotesques.'"

We have not an opportunity of showing the reader the works which Cellini pretends "to have made so infinitely finer and more solid than those of Turks;" but herewith is a copy of a damascened box, ornamented in the same way, made at Venice by workmen called "azziministi," and which is quite exquisite.

The siege of Rome by the Constable de Bourbon forms one of the more comico-dramatic episodes of the book. Cellini as an artillery-man is like the captain of a Spanish comedy. It is his arquebuse that kills the Constable, and his falcon-shot that wounds the Prince of Orange. Then the Pope absolves him "for all the homicides he has committed, and intends to commit, in the service of the Holy Apostolic Church." But soon, alas! the same Pope, Clement, is in want of money, and the following is the lamentable scene that ensues: "When we were all three locked up (in a small room in the castle of St. Angelo), his Holiness and his favourite, the Cavalierino, placed before me tiaras, and all the precious stones belonging to the Apostolic chamber. The Pope commanded me to unmount them, which I did. I then wrapped each stone in a separate bit of paper, and then we sewed them into the lining of the Pope's vestments and those of the Cavalierino. All the gold, about two hundred pounds in weight, was left to me, with orders to melt it down with as great secrecy as possible."

What marvels of workmanship and ornamentation was then thrown remorselessly into the melting-pot! This thought, however, does not extract the slightest sigh from him, nor a word of respect for the

DAMASCENED CASKET.

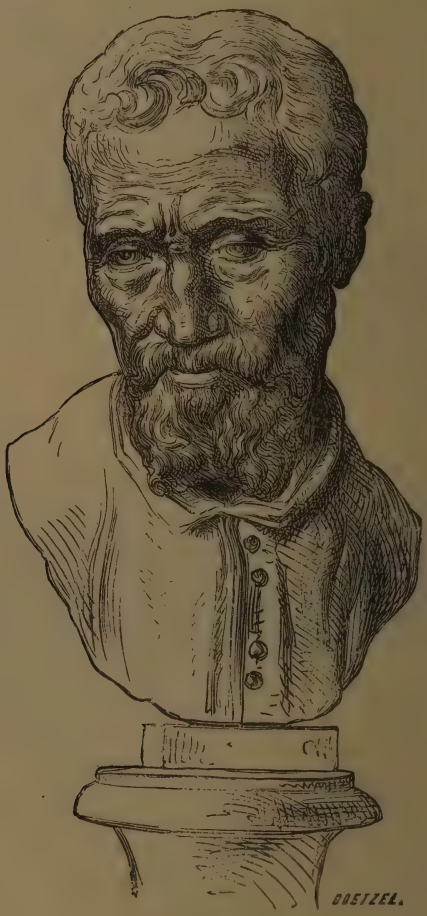
(Sixteenth Century. Venetian work by the Azziministi.)

genius of those who went before him. Cellini's was an indomitable pride. But fate was destined to punish him for this sacrilege, of which he was, however, only the passive instrument; either falsely, or with truth, he was accused of having robbed a large portion of the ingots of this treasure. He was quite a man to make an arrow out of every bit of wood, and turn his chances to account. He admits having washed the ashes, in which remained one pound and a half of gold, and kept it for his share in the transaction.

But the siege comes to an end, and Benvenuto starts afresh for Florence. "I was alive," he writes, "a well-furnished purse was in my pocket, and I had a groom and a good horse." And more; he was a captain, and received orders to raise a company; "but," he adds, "I was always fond of seeing the world, and as yet I had never been to Mantua." So he shortly finds himself in that town, seeking for work and finding some with one Maestro Niccolo of Milan, goldsmith to the Duke. He relied on the good offices of Giulio Romano, who introduced him to the Duke. He resided there four months, during which time he made the ducal seal, and also a reliquary for the Holy Blood brought by St. Longino. He made besides a little wax model representing Christ seated, holding His cross, on which He seems to be leaning, in His left hand, while He opens the wound in His side with His right.

Again he returned to Florence; but he found his father had died of the plague. He established himself in the old market, and earned a little money by mounting trinkets and jewels. It is then that he made his famous gold medallion of Hercules tearing open the Lion's Jaw, of which he gives a detailed description in his "Treatise on Goldsmith's Work." These medallions or enseignes, as we have already stated, were worn on the hat. The one here mentioned obtained—says Cellini, and we think it not unlikely—great praise from Michael Angelo. There is a letter extant from Michael Angelo to Cellini, in which the great and austere genius seems almost to prostrate itself before the blustering and high-flown workman. But perhaps Michael Angelo was himself less strict and austere than Vasari has thought proper to represent him. His sonnets, to which he so constantly reverts, on the subject of thought battling with the ideal, betray a suffering as well as a softened heart. We see him represented under a singularly dreamy and accessible aspect in the bust—modelled, no

doubt, by some one of his pupils, which is now in the possession of M. Beurdeley. If the expression of the mouth has preserved a dash of bitterness, the look of the eye, at least, is gentle and kindly.



BUST OF MICHAEL ANGELO.
(A Florentine Bronze by an unknown sculptor. In M. Beurdeley's possession.)

Benvenuto also made for Frederico Ginori the medallion of Atlas. "It was," he says, "a figure chiselled in metal; he bore the world on his back, in the shape of a ball of crystal, on which I had engraved the signs of the zodiac. It stood out on a background of lapis-lazuli."

Bartsch, a celebrated iconograph, has pointed out, in the collection of the Prince de Ligne, a drawing by Cellini, believed to have been a study of this very figure of Atlas.

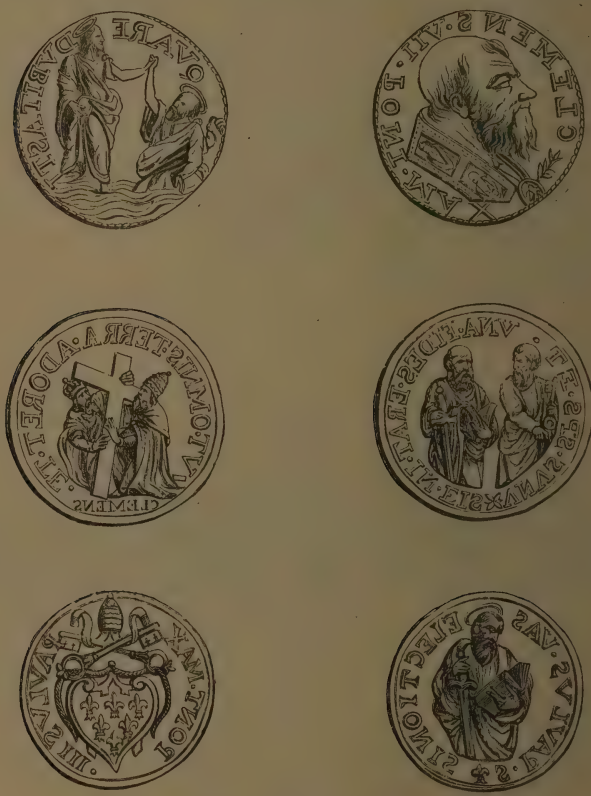
Suddenly, and when Clement VII. had first declared war with Florence, we see Cellini, like a bad citizen, leave his country and start for Rome. Was it in truth, as he states, to obey the pressing injunctions of the Pope? We must suppose that his conscience did not feel very clear; for the space of a fortnight he remained secluded, and, as it were, purposely hidden, in the house of an old goldsmith whose name was Raphael del Moro. As yet, however, the Pope manifested no suspicion; he received him courteously, and forgave him his avowed larceny with respect to the washing of the gold of the melted tiaras: in a second interview, impatient with Caradosso—who was a very slow worker—for being so dilatory in finishing a cope-button, he ordered of Cellini a second button, and showed him a number of precious stones. The following is Cellini's description of the model of the said button, which won for him great praise: "Above the diamond, which I had placed exactly in the centre of my composition, was God the Father, seated in an easy attitude, so as to be in harmony with the rest of the piece, and not to crowd the diamond. With His right hand He was giving His blessing. The diamond was supported by the arms of three little angels; the centre one was modelled in high relief, and the other two in semi-relief. Around them were playing a number of little children, interspersed with other stones. The Father was covered with a floating mantle, whence arose a multitude of winged angels and ornaments. The whole was in white wax, standing on a background of black stone."

But the Pontiff did not rest content with that. He proposed to Benvenuto, to whom it was a new branch of his art, that he should engrave his coins. He executed a gold doubloon, or double ducat, which bore on the obverse an "Ecce Homo," and on the reverse the head of Pope Clement VII. Another coin, representing, on the obverse, the Pope and the Emperor supporting a cross, and on the reverse, St. Peter and St. Paul, is also Cellini's work. These coins are most delicately engraved.

He also made for Clement VII. the design and model in wood and in wax of a monumental chalice; by way of a knob to the cover, he had put three statuettes in full relief, of Faith, Hope, and Charity, answering to three circular bas-reliefs on the foot of the

chalice, which represented the Nativity and Resurrection of Christ, and the Crucifixion of St. Peter. This chalice, which he refused to give up save upon immediate payment, caused him many annoyances.

We suppress in these "Memoirs" all that is too personal or too absurd; such as the account of his duels, his brother's death, his journey to



PAPAL COINS OF CLEMENT VII. AND OF PAUL III.
(By Benvenuto Cellini.)

Naples, his evoking the shadows in the Coliseum. One trait, however, indicates how confused and heated was the brain of the man. He is requested to portray a figure of Peace on a gold coin; this he does by the figure of a young woman holding a lighted torch, with which she is setting fire to the doors of the Temple of War!

While Benvenuto was completing two medals, one with Moses on

the reverse, the Pope died. Thus he was left exposed to the persecution of his enemies; and the following will show that they had

MEDALS OF FRANCIS I. AND OF POPE CLEMENT VII.
(By Benvenuto Cellini. In the Cabinet des Médailles et Antiques.)

reasons for being inveterate:—"The arquebusier" (he who had killed his brother, and whom he watched indefatigably) "had just had his

supper, and was standing on the threshold of his door holding his sword. I contrived to approach him unobserved with a large dagger in my hand, resembling a hunting-knife. I hoped to cut off his head at one blow; but he gave so sudden a jerk round that the point of my weapon only reached his left shoulder, breaking the bone. He got up, dropped his sword, and, sick with pain, began to run. I pursued him, overtook him in a few paces, and raising my dagger over his head, which he held very low, I thrust it into him in such a way that it lodged between the bone of the neck and the back of the head so firmly that, notwithstanding all my efforts, I was unable to withdraw it. I abandoned my dagger, therefore, and fled." His reputation, anyhow, cannot have been of the best, for he was, for a moment, suspected of being the coiner of money, by whose help forgers were infesting Rome with false coin.

Lastly, the account of the rapid and summary blow with a dagger, which he inflicts upon his rival Pompeo, the goldsmith, for whom he lies secretly in wait, cannot but make one shudder with a feeling of intense disgust. The manners and customs of that period were, doubtless, cruel; but there are honest and good artists, such, for instance, as Leonardo da Vinci, Michael Angelo, and Raphael, who passed through them untainted, at least with the blood of their rivals. Benvenuto Cellini is a boaster who had the good fortune to practise the trade of an honest man, and the still better luck to be able to hold a pen.

Paul Farnese was the next to wear the papal tiara, under the title of Paul III. He was a grave, firm, and sagacious old man. He appreciated the goldsmith's talent in Benvenuto, and gave him an order for some coins—among others, a scudo, representing St. Paul and the allegorical legend, *Vas electionis*. But Benvenuto seems to have quarrelled with the Prince Pietro Paolo Farnese, for whom the Pope had a fatherly affection, and he accused him of having designed to poison the Prince.

Upon this, Benvenuto started for Venice; and thence he went to Florence, where he received from Alessandro de' Medici an order for executing his coins. His first production was a piece of silver, of forty sous in value, representing on the obverse the head of the Duke Alessandro, and on the reverse, the figures of St. Cosmo and St. Damian. "I also made designs for the Giulii.* On one side I engraved

* The Giulio was a Papal silver coin, value 6*d*.

a profile of St. John, seated, and holding a book in his hand. In my opinion, I had as yet produced nothing to equal this; on the reverse, I placed the arms of Duke Alessandro. For half-giulii, I engraved, next, a head of St. John. It was the first full face ever coined on so thin a piece of silver."

During this time, the 15th of August, the date at which Cellini was to obtain absolution for all his crimes and larcenies, was drawing nigh. He received, in the Pope's name, an invitation to come and purge away his last homicidal crime. Leaving to his pupil, Pietro Paolo, a Roman, the necessary instructions for the striking of the coins, he started, and followed in the procession of the Madonna, with the cloak of sky-blue silk, and so found grace and was absolved.

For some time past he had applied himself to the chiselling on steel of a medallion of Alessandro de' Medici, of which he made the wax model in two hours. It was at the very time when that tyrant was killed by his companion in debauchery, Lorenzo, and also when Charles V. was returning, victorious, from his expedition against Tunis. The triumphal arches raised on this occasion were numerous and magnificent, and the King made his triumphal entry into Rome with marvellous pomp and grandeur. The Pope had in his possession a book containing the services in honour of the Virgin, which was filled with valuable and precious miniatures: he was proposing to offer it to the Spanish monarch as a present, and ordered Benvenuto to make for it a cover of massive gold, richly chiselled, and ornamented with precious stones, to the value of six thousand crowns.

Pope Paolo III. (Farnese) was not so liberal as Clement VII., and, on the other hand, our Florentine artist had no intention of being underpaid. Having drawn but small profit out of the large work that had just been entrusted to him, he resolved to go and offer his services to Francis I. The King of France held him in high esteem ever since he had possessed the medal of Atlas, presented to him after the death of Frederico Ginori, by whose orders it had been made. Benvenuto, therefore, left Rome. Passing through Padua, he bethought himself that he would go and kiss the hand of Messer Bembo, not as yet a cardinal; and he made a model in wax of his head, with a figure of Pegasus, in the midst of a wreath of myrtle, on the reverse. He then travelled through Switzerland, stopping

at Lyons on the way, and at the end of four days started for Paris with his pupil, Ascanio.

He went straight to the house of one Rosso, and knocked at his door. He stated that he had formerly lent him a sum of about ten scudi, to subsist upon, and that he had rescued him from the fury of the pupils of Raphael, whose works he cried down. But Rosso received him coldly, and led him to understand that France at that time could think of nothing but war. Whether true or false, this assertion angered Cellini, and a coldness ensued between him and Rosso. They parted abruptly; Cellini went and lodged with Squazella, a pupil of Andrea del Sarto.

Rosso had only spoken the truth; Cellini had come at the worst of times. The finances of the kingdom, already much undermined by the luxury of its ostentatious monarch, were altogether absorbed by preparations for the war then about to break out. Francis I. granted Cellini a few moments' audience at Fontainebleau, and brought him home in his suite as far as Lyons. There Cellini fell ill, and so did Ascanio; and had scarcely recovered when he was seized with a desire to return to his own country, and with suppressed spite and vexation he returned to Florence, crossing the Simplon.

On his way, he had long conversations with the Cardinal of Ferrara, who from that moment seems to have made up his mind to monopolise him. He received from that prelate, who as yet was only endowed with an abbey at Lyons, sufficient money to make a silver ewer and basin, which, later on, and during his second voyage, he prevailed upon Francis I. to accept.

In passing, he greets the Duc Ercule d'Este. At Rome he opens a shop, and employs as many as eight workmen. The Cardinal of Ferrara, who, no doubt, had mentioned him to Francis I., writes him word to return to France, when he suddenly finds himself arrested, interrogated, and locked up in the Castle of St. Angelo. He was then about thirty-seven years of age. Some workmen had, either justly or unjustly, denounced him as the author of the appropriation of a portion of the gold tiaras of Clement VII. to a far more serious extent than he himself had been willing to admit.

Then commences a chapter of the most incredible and grotesque romance. He states that he is claimed by the King's ambassador, M. de Montluc, but in vain. He attempts, with the aid of the sheets

SALT-CELLAR OF GOLD ENAMELLED, REPRESENTING EARTH AND OCEAN.

(By Benvenuto Cellini. In the Museum of Antiques at Vienna. Ambaraz Collection.)

of his bed, cut up into strips and knotted together so as to form a kind of rope, to effect an escape, in the course of which he breaks one of his legs. He takes refuge with the Cardinal Cornaro, but he is very soon discovered, caught again, and thrown into a dungeon, in which there is only just sufficient light, and that but for one hour in the day, to enable him to read a few leaves of the Bible, and the chronicles of Giovanni Villani. He then pretends that an attempt is made to poison him; but, in reality, his health is failing. Fever seizes upon that heated brain, excites him, and causes him to converse with Christ in miraculous visions. Imagine what must have passed in the mind of this caged jaguar! All this part of his "Memoirs" sometimes attains a degree of eloquence which touches us in spite of ourselves.

At last the Cardinal of Ferrara, taking advantage of an auspicious moment, obtains his forgiveness and absolution from the Pope, and has him set at liberty, at the very moment when he was probably on the eve of madness. All this took place in 1539.

When once he is out of prison, the artist sets to work again, and begins by completing the ewer and basin of silver which he had begun for the Cardinal of Ferrara. He engraved for him besides, on a seal, two little subjects—St. John preaching in the Desert, and St. Ambrosius, on horseback, driving the Arians before him with a whip. This was another opportunity to compete with the illustrious Lautizio, of whom he was so jealous.

It was then that he made for that same cardinal the model of the celebrated salt-cellar, representing the Earth and the Ocean, the only well-authenticated and important piece of his that has survived. This is the somewhat inexact description he has left us of it: "On an oval base, about twelve inches long (*deux tiers de brasse* *), I placed two figures, representing Earth and Ocean, rather more than a palm in dimensions (three inches), sitting with their legs interlaced, in allusion to those long arms of the sea which, in some places, reach far into land. In Ocean's left hand I placed a ship, splendidly and minutely worked, destined to hold the salt. The god was seated on four sea-

* Two-thirds of a *brasse*. At page 341 we find that Francis I. ordered Cellini to execute twelve statues of exactly his own height, viz. nearly *four brasses*; this, supposing him to be six feet high, makes a *brasse* equal to eighteen inches, or a cubit. Therefore two-thirds of this measurement gives us twelve inches as the length of the salt-cellar.—Ed.

horses, holding his trident in his right hand. Earth, represented by a woman as graceful and as beautiful as I could conceive her to be, rested one hand on a richly decorated temple, destined to hold pepper. In the other she held a long cornucopia, in which I had combined everything I knew of that was most beautiful. Beneath the goddess were seen all the beautiful animals which the earth produces, and under Ocean I had placed all the fishes and shells I was able to introduce in so limited a space. Lastly, the oval stand itself was covered with rich and numerous ornaments." The description he gives of it in his "Treatise on Goldsmith's Work," is still less correct than this. What he has neglected to state is, that this great work of metal chasing is, in great measure, enamelled: Neptune is seated on a shell, which is covered with a blue drapery, sprinkled with fleur-de-lis of gold; the saddle of the elephant on which Cybele reclines is also decorated with fleur-de-lis, similarly, on a green surface; on each side of the temple visible in our engraving—itself taken from a photograph—Hercules and Abundance are standing in niches, surmounted with escutcheons bearing the arms of France and an F, the initial of Francis I. The whole salt-cellar is tightly screwed on to a base or stand of ebony, where the Four Hours of the day are alternately represented with the Four Winds. The whole moves along on tiny ivory casters, that are half-hidden in the wooden stand.

When, after his return to France with his pupils, Ascanio and Paolo, in 1543, and his installation by main force in the house called the Petit-Nesle, Benvenuto had finished this piece, of which the whole is as ungraceful and ill-combined as the details of it are ingenious and superlatively executed, the King, overjoyed, bestowed on him 1000 francs, in old gold, of full weight. Twenty-seven years after, Charles IX., on the occasion of his marriage with Elizabeth of Austria, daughter of Maximilian II., distributed presents to his guests; and the Archduke Ferdinand, uncle to his affianced bride, received, among other things, an ewer of onyx, a gold cup, and Cellini's salt-cellar. It remained almost buried in the castle of Ambaraz, at Vienna; it was supposed to have been stolen, or else meanly melted down, when it was, by some piece of good fortune, brought to light; and catalogued for the first time in 1819.

On his arrival at Fontainebleau, Benvenuto had been immediately presented to the King, who, though he received him graciously, did

not encourage him to look for the advantages he had dreamed. His pride was deeply wounded, and he attempted a precipitate, hurried flight, which was nearly costing him very dear. At last Cardinal Ferrara promised him appointments similar to those which had been bestowed on the painter Leonardo da Vinci, namely, 700 crowns per annum, with a payment for each of his works, of 500 crowns in gold in addition. He accepted this offer, and undertook "the models of twelve silver statues, destined to be used as candelabras around the King's table. Francis I. wished them to represent six gods and six goddesses, of exactly his own height, which was nearly four brasses" (*quatre brasses*), or six feet. He began with the models of Jupiter and Juno, Apollo and Vulcan.

The King bestowed one hundred crowns in gold, as a pension, on his two pupils, and gave him the Hôtel du Petit-Nesle to inhabit. But this hotel was in the hands of the Provost of Paris, who had sublet it, so that it was only after a real siege, and in threatening the lives of the tenants, that he was at last able to enter into possession, which he did, there making his first arrangements for casting.

It was then that he commenced a bust of Julius Cæsar, much larger than Nature, after a small copy of an admirable antique which he had brought with him from Rome. He also began another bust, of the same dimensions, of a young girl of great beauty. He called the head "Fontainebleau," after the favourite residence of the King.

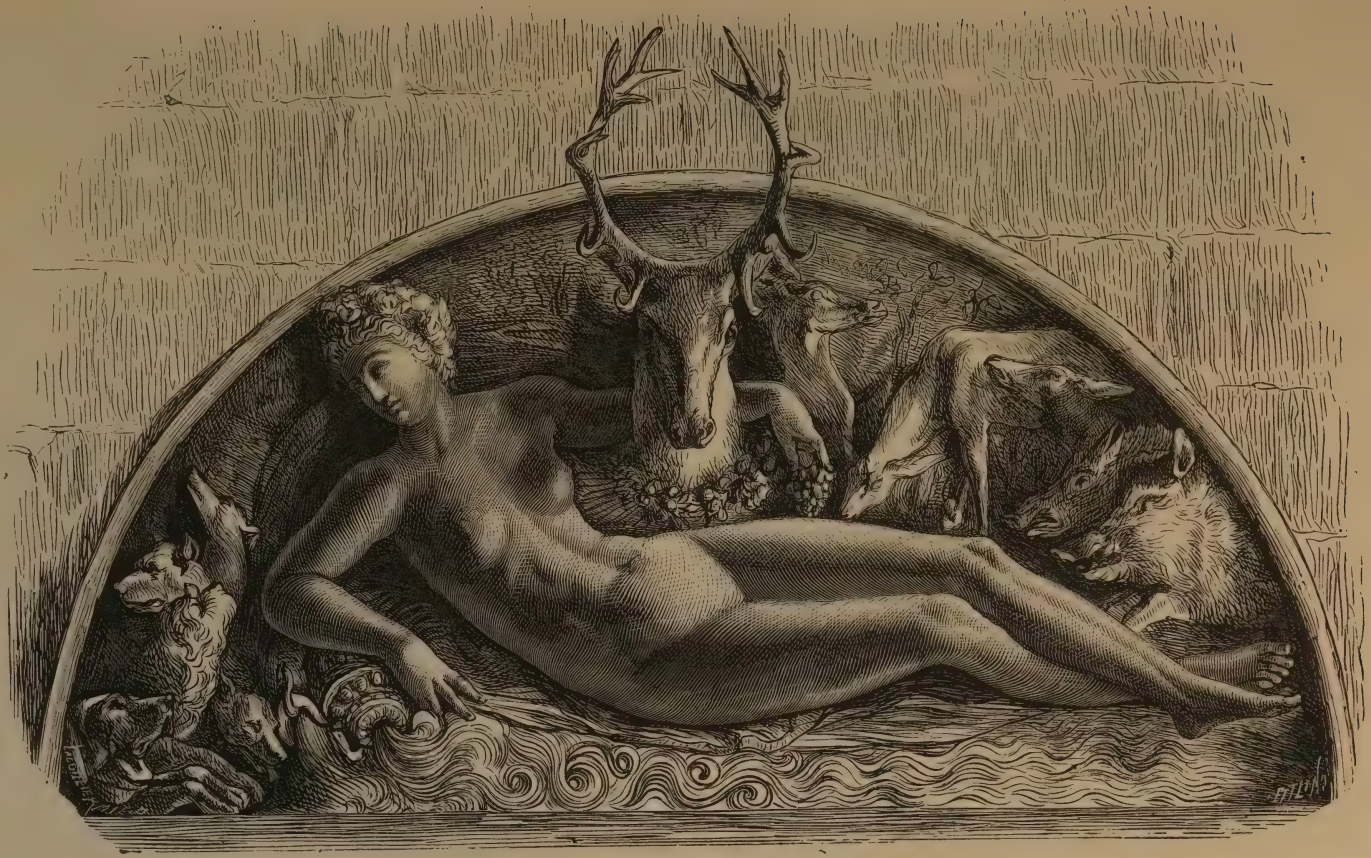
This was the period of greatest activity in France. He has left us no details concerning his smaller works, his vanity prompting him to talk only of his great ones. But he incidentally mentions a number of trinkets for many great lords, among others, Pietro Strozzi, the Count of Anguil'ara (who was also already one of the patrons of Rosso), the Count di Pitigliano, and the Count de la Mirandole. When the King, accompanied by the Duchess d'Étampes, came to see him, he was astounded at the quantity of work he had undertaken. He had established a complete workshop, with German and French workmen, whom he exchanged for abler ones whenever he could chance to meet with them.

No doubt Ascanio was at the head of the commercial portion of the establishment. He created for himself a sort of personal business, and fixed himself in France: we find his name mentioned in an account of Cardinal Hippolyte d'Este's expenses, during the stay of D. Alphonzo,

cousin to the Duke of Ferrara, in 1558 and 1559. He was then inhabiting the castle of the Petit-Nesle, given up to him by Benvenuto when he left; and he was known by the name of Ascanio di Nello. Certain documents go to prove that he was still at Paris in 1563.

It is to that year, too, that we trace the gold medal of Francis I., now belonging to the Cabinet des Antiques. It is signed, and yet, strangely enough, Benvenuto makes no mention of it in his writings. It will certainly not bear comparison with the bronze medals of Pisanello and other Italian masters, but it possesses a certain richness and fulness of touch, and the profile of the King has an aristocratic turn. The mounting of a cameo, also at the Cabinet des Médailles, together with some vases and cups of hard materials, exposed in the Apollo Gallery at the Louvre, date in all probability likewise from that time. Nothing positively establishes their authenticity; but we would draw attention to this group of Neptune and Amphitrite sitting on the edge of the cup, and standing boldly out, as in the salt-cellar. Figures, equally open to the charge of being out of place, are also to be found in a cup made of rhinoceros horn, mounted in enamelled gold, now at the Royal Museum of Munich. The distinguishing stamp of this precious and valuable series of articles lies in the exquisite labour of the details; the more reduced, the more perfect they are. The small figures of dolphins and sirens disporting, and dragons twisting their bodies into a thousand shapes, are masterpieces sufficiently delicate to explain the fashionable enthusiasm of a gallant court for so able a goldsmith, and the great vogue which his workshop enjoyed.

In a third visit from the King, Benvenuto submitted to him a complicated scheme for a fountain, and also the model of the Nymph of Fontainebleau, afterwards carried out and applied to the door of the castle which looks out on the gardens, and called to this day the Porte Dorée. It was at this memorable interview that the King, who owned to not understanding the "ithos" and pathos of his projects *à l'Italienne*, twice called him "his friend." The bas-relief in bronze of the Nymph of Fontainebleau is at the Louvre, in the "Salles de la Sculpture de la Renaissance." It is a showy piece, which looks very common and very cold beside the refined elegances and the aristocratic suppleness of the Diana of Jean Goujon. That huge virago, reclining near a spring, is neither chaste nor powerful in conception. A Parisian



THE NYMPH OF FONTAINEBLEAU.

(High relief in Bronze, by Cellini. At the Louvre, in the Museum of the Sculpture of the Renaissance.)

damsel, with whom he was much taken, and whom, by-the-bye, he treated with the most revolting brutality, was the model for it. The stag's head in relievo is of very inferior invention, and as to the dogs and wild beasts grouped at the feet of the nymph, or behind her shoulder, they are sketched with more dash and "chic" than science. It is third-rate sculpture, and Francis I. would have found far better and far greater talent in his own French school, if he had deigned to look for it and make use of it.

Unfortunately for him, Benvenuto had forgotten, or, what is more probable still, his foolish vanity had neglected to secure the good graces of the Duchess d'Étampes, and consult her on the designs and projects he submitted to the King.

It was useless later to bow humbly and endeavour to ingratiate himself; the blow had been struck, and the offence given. One day he betook himself to St. Germain, where the court happened to be staying, armed with a small vase, charming in design and execution, with which he hoped to reinstate himself in the good graces of the Duchess. He was kept waiting in the anteroom a whole day, until he was compelled to leave, half-dead with hunger, and, as he himself states, "devoutly hoping that madam might go to the deuce." Thence he went to the Cardinal de Lorraine, to whom he presented the vase, only begging him in return to retain for him the good graces of the King. The worthy Cardinal received him most cordially, and forced him to accept in return a very large sum of money. But this was a dangerous game to play, and it only increased the hatred of Madame d'Étampes. One of the cleverest of the revengeful tricks the favourite played him was to sow dissension between Benvenuto and the Primatice, whose services pleased the King so well that he had given him the Abbey of St. Martin.

As soon as he had finished the famous Jupiter—of which no traces are left—Benvenuto had it taken to the Palace of Fontainebleau, where the court then was. The Primatice, after bringing away some precious moulds from Rome, had just recently had them cast in bronze, and with very great success. The Jupiter, as we know, was of silver, mounted on a pedestal, which rested on a wooden stand. It was exhibited in the room in which the Primatice's modern antiques chanced to be, which room was also hung round with paintings of the richest colouring by Rosso. In the presence of all the court, Ascanio

pushed forward the statue, which was on casters, to where the King stood, at the same time "giving it a particular movement, which lent it a life-like appearance." Cellini, always studious of complete effects, had, in what represented lightning in the god's hand, inserted a piece of lighted wax taper. Naturally, the Duchess d'Étampes could not let such an occasion pass for a display of her antagonism, and began admiring the antiques in preference to the Jupiter tonans. At this Cellini but ill concealed his vexation. He was ordered to be silent. In great agitation he tore off passionately a bit of the drapery which he had thrown over the legs of his god. Let us mention in passing that five of the Primatice's casts are still in existence, and ornament the gardens of the Tuileries; these are the Laocoon, the Ariadne, the Apollo, the Venus, and the Commodus. The workmanship of them is incomparably good.

PERSEUS.
Statuette in Bronze, attributed to Cellini.
(Collection of M. Ch. Davillier.)

Suddenly, without any apparent reason for it, unless it was that the King had fallen ill, without having completed a colossal statue of Mars which he had begun, Cellini starts one fine evening for Italy. The "traitor Ascanio" was despatched after him, and rejoined him at midnight, doing his best to assure him that "those rascals of treasurers were crying 'Thief! thief!' so loudly," it had become urgently necessary that the three great vases of silver which Benvenuto had taken away with him by mistake should be returned! There was nothing for it but to unpack them!

Cellini reached Florence in August, 1545. He immediately went to Duke Cosmo, then at his villa of Poggio. In this first interview was started the scheme for the Perseus, destined to be placed in the great place already celebrated by Donatello's statue and by the David of Michael Angelo. The model of it in wax was liked, and finally placed

in the Museum of Florence, where it is now. It is not improbable that the statuette we here reproduce was one of Cellini's first attempts, or models, for the Perseus.

He had been at Florence scarcely a year when his conduct caused a fresh outbreak, and made him fly for refuge to Venice. This he calls "the prodigious variety of means with which his cruel ill-fortune used to persecute him." He is then in Venice for a time, where he visits Titian, Lorenzo de' Medici, with whom he had been intimate in Paris, and Sansovino, whom he had previously known in Rome and at Florence. Perhaps there may have been a perceptible desire on his part to act as a spy, judging, at least, by the furious glances that the Prior Strozzi and Lorenzino cast at him. This is rather corroborated by the fact of his secret return to Florence after a stay of only a few days.

He very soon reinstated himself in the good graces of the palace, whence he had for a time been estranged by his display of temper. Three works were engaging him at this time: the Perseus, at which he worked with great ardour and perseverance; the making of small articles for the toilet and of jewellery, for which the Duchess, woman that she was, cared for above all things; and his ardent competition with Baccio Bandinelli, whom he called the "new sculptor." For the Duchess he made a few little cups of silver, ornamented with beautiful and precious masks, *à l'antique*, and also a trinket, in the shape of a ring for the little finger, which she despatched to Philip II. This was the time of his most violent passions; his jealousy of Baccio Bandinelli passes all bounds, and almost makes him mad with fury. Some of the pages of his "Memoirs" reek of blood and bile.

He sculptured in marble an Apollo and Hyacinth, and also a Narcissus. This last, in the flood caused by the Arno overflowing its banks, and entering his studio, was accidentally thrown down, and broken across the chest; but he readjusted it cleverly, and hid the seam with a wreath of flowers.

The year 1548 was a memorable one in Benvenuto Cellini's life. We would gladly call it the year of his purification. It saw him complete the casting of his Perseus; it is not only Cellini's *chef-d'œuvre*, but it is a work in which he threw, almost without being aware of it, all his talent, his care, his energy, his pride, all even of his resources. He arose from it another man. No more excesses, no more violence,

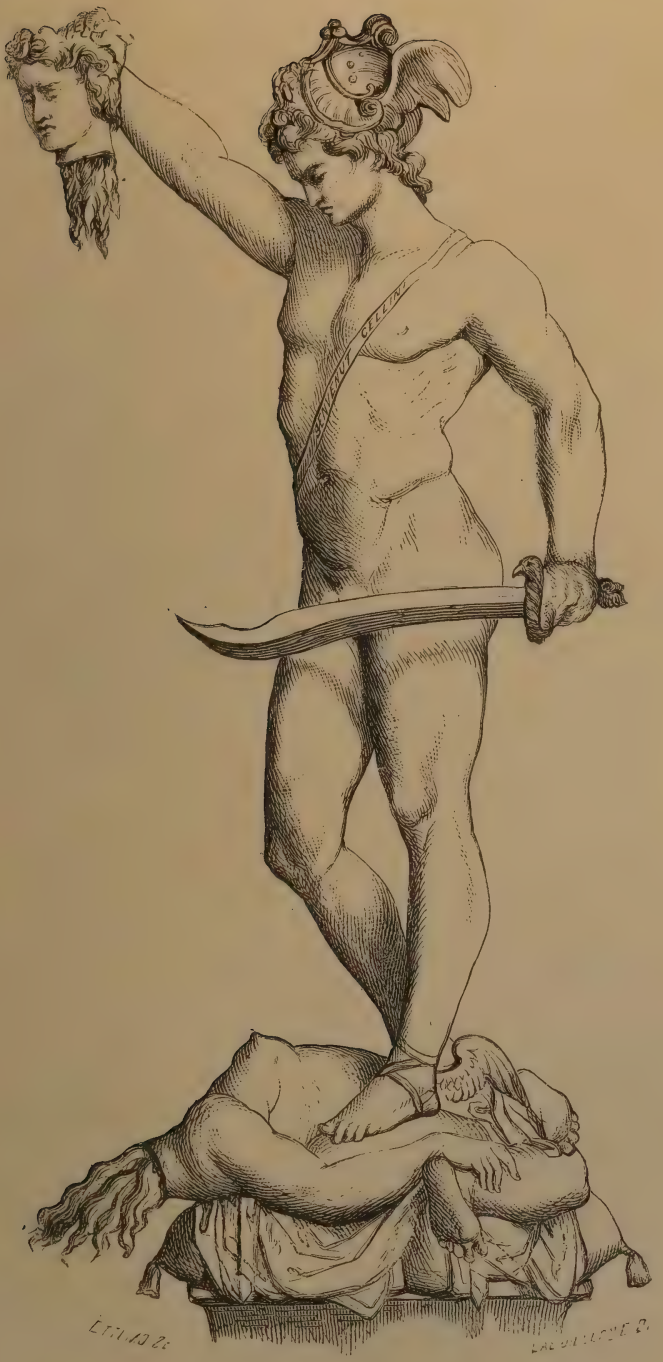
and no more theft; it seems as if Cellini's heart had been sifted and tried in the furnace he prepared for the casting of his work.

He first cast the Medusa, which the young hero is trampling under foot, and whose arm, which exceeds the boundary of the pedestal, is, in my opinion, false in harmony. Then he proceeded to finish the waxen model of the statue, while he received the visits of Duke Cosmo. Of course he exaggerates the commonplace observations made by his Excellency on the subject. In the interval he had completed a colossal bust of the Duke. It is still at Florence. A friend, in whose judgment we place the utmost confidence, has assured us it is cleverly modelled and nobly designed.

The day for the casting arrived. Cellini had overcome a thousand mean tricks of the court, and much personal discouragement, besides having spent all the money he had made by the execution of the jewels mounted for the Duchess. We cannot, then, do better than quote the sculptor's own words, only reminding the reader how closely these pages are connected with the tragic experiences of Bernard Palissy in his first attempt at producing enamel.

"Animated with fresh ardour, I collected all my forces, and, with the little money left in my purse, I purchased a few piles of pine-wood from the forest of Serristori, near Montelupo. In awaiting their arrival, I covered my Perseus with clay that I had prepared some months previously, so that it might be in the required condition. As soon as I had completed my earthen mould (*chape* being the technical term for it), carefully strengthened with strong bands of iron, I began, with the help of a slow fire, to melt the wax from it, which came out by a number of apertures for that purpose; for the more numerous these are the better the mould is filled. After extracting the wax, I built up around my Perseus, that is, around the mould of it, a perforated oven made of bricks placed one over the other, so as to leave between each of them an empty space, in order to facilitate the action of the fire: after which, for the space of two days and two nights, I ceased not to heat the oven continually until all the wax was melted out, and the mould completely baked.

"The next thing I did was to dig a pit wherein to bury my mould, according to the rules of my art. When that was done, I took my mould, and with the help of pulleys and strong ropes I raised it with care, and suspended it about a foot above the level of my furnace,



PERSEUS.

(Statue in bronze by Benvenuto Cellini, at Florence.)

so placing it that it should precisely gravitate towards the centre of the pit. I then let it gently down to the bottom of the furnace, where it rested with all possible precision. This furnace I had filled with ingots of copper and bronze, heaped one upon the other, being careful to leave between them space sufficient for the flames to pass, in order that the metal should heat and liquefy faster.

"I next resolutely commanded my workmen to light the furnace, and throw large pieces of pine-wood into it. Owing to the resin which oozed out of this wood, and to the admirable way in which my furnace was constructed, the fire burnt so rapidly that I had to feed it now on one side and now on the other, which greatly fatigued and exhausted me. Nevertheless, I redoubled my efforts. To add to our misfortune, our workshop caught fire, and for some time we feared that the roof would fall in upon us. On the other hand, so strong a draught of air reached me from the garden side, and so furious a storm of rain, that my furnace was gradually getting colder. After struggling against these deplorable accidents for some hours, I became so worried and harassed, that my constitution, though robust, could no longer bear such severe hardship, and I was suddenly attacked by a most violent intermittent fever; in short, I was so ill that I found myself under the necessity of lying down upon my bed. Thus in great sorrow I went to bed, and was no sooner there than I ordered the maids to carry victuals and drink into the shop for all the men at work, adding: 'Alas! to-morrow I shall have ceased to live!' In this manner did I continue for two hours in a violent fever, which I perceived was increasing every moment; I was incessantly crying out, 'I am dying! I am dying!' My housekeeper, whose name was Maria Fiore da Castel del Rio, was one of the most sensible and affectionate women in the world; she rebuked me for giving way to vain fears, and at the same time tended me with the greatest kindness and care imaginable. However, seeing me so very ill, she could not contain herself, but shed a flood of tears that she endeavoured to conceal from me.

"Whilst we were both in this deep affliction, a man entered the room, who in his person appeared to be as crooked and distorted as a great S, and began to express himself in these terms, in a tone of voice as dismal and melancholy as that of those who exhort and pray with persons who are about to be executed: 'Alas! poor Benvenuto,

your work is spoiled, and the misfortune admits of no remedy.' No sooner had I heard the words uttered by this messenger of evil than I cried out so loud that my voice might be heard to the seventh heaven, and I jumped out of bed. I began immediately to dress, distributing kicks the while to the maid-servants and to the boys, as they offered to help me on with my clothes. I complained bitterly, saying: 'Oh! the envious and treacherous wretches! this is a piece of premeditated villany; but I swear by the living God that I will sift it to the bottom, and before I die give such proofs of who I am, as shall not fail to astonish the whole world!'

"Having huddled on my clothes, I hurried, with a mind quite upset, to the workshop, where I found all those whom I had left so alert and in such high spirits standing in the utmost confusion and astonishment. I thereupon exclaimed: 'Listen, all of you, to what I am about to say; and since you either would not or could not follow the instructions with which I left you, obey me now that I am present; my work is before us, and let none of you dare to oppose or contradict me, for such cases as this require strength of arm, and not counsel!'

"I went directly to examine the furnace, and saw all the metal in it concreted. I thereupon ordered two of the helpers to step over the way to Capretta, the butcher, for a load of young oak, which had been above a year drying, and which Ginevra, the wife of the said Capretta, had previously placed at my disposal. Upon their bringing me the first bundles of it, I began to fill the grate. This sort of oak makes a brisker fire than any other wood whatever; but the wood of the poplar and the pine is used in casting artillery, because it makes a gentle fire. As soon as the concreted metal felt the power of this violent fire, it began to brighten and glitter. In the meantime I ordered the windows to be set open, and sent some of the men to the roof of the house to put the fire out, which the flames from the furnace had again set fire to. On the garden side I had caused some planks and pieces of old calico to be so placed as to shelter us from the rain. As soon as I had applied the proper remedy to each evil, I cried out loudly to my men to bestir themselves and lend a helping hand; so that when they saw that the concreted metal was beginning to melt again, the whole body of men obeyed me with zeal and alacrity; every man did the work of three.

"Then I caused a mass of pewter, weighing about sixty pounds, to be thrown upon the metal in the furnace, which, with the help of the brisk wood fire and the stirring of it, sometimes with iron and sometimes with long poles, soon became completely dissolved. Finding that, contrary to the expectation of my ignorant assistants, I had effected what at first had seemed as difficult as the raising of the dead, I recovered my vigour, so as no longer to perceive whether I had any fever, nor had I any longer any fear of death.

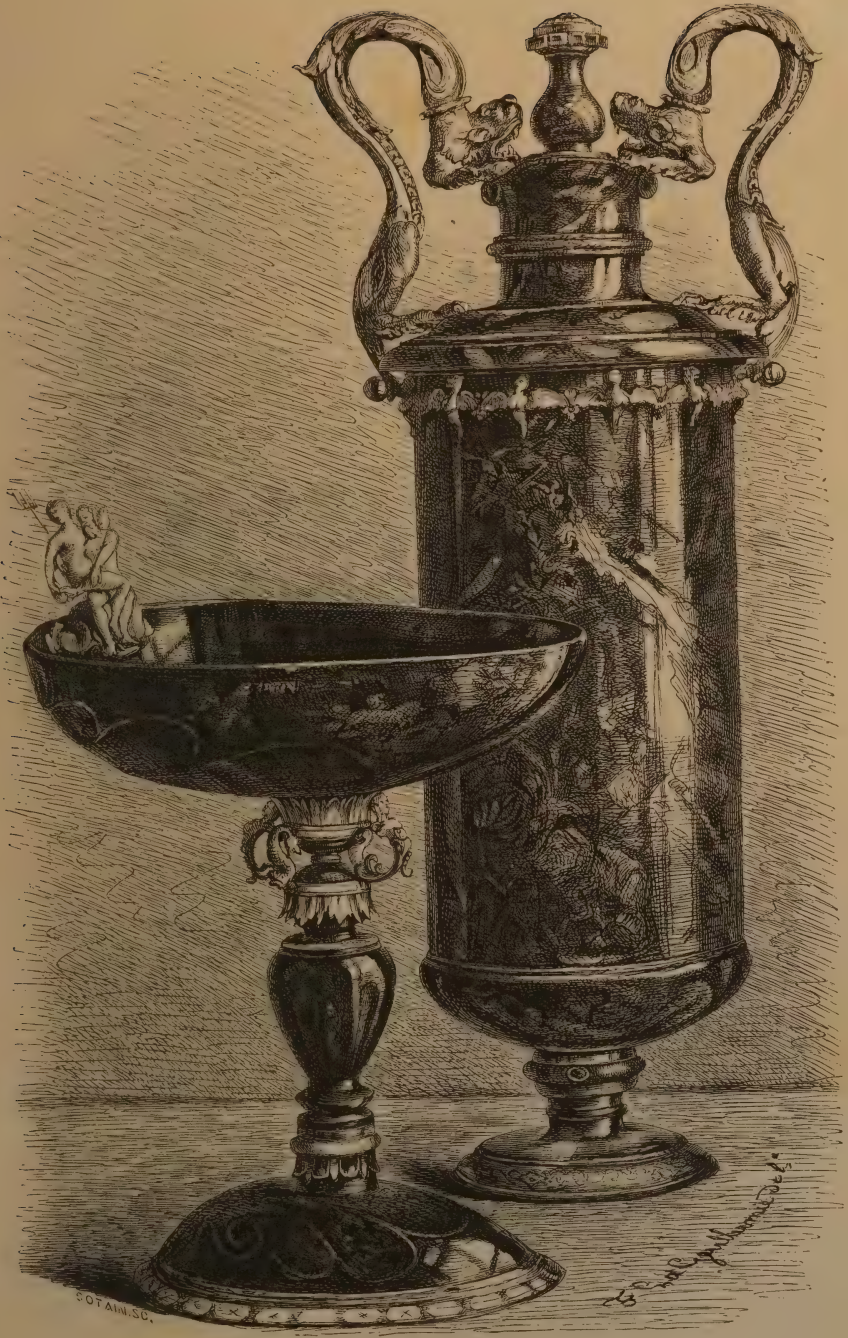
"Suddenly a loud detonation was heard, and a glittering of fire flashed before our eyes, as if it had been the darting of a flash of lightning! Upon the appearance of this extraordinary phenomenon, terror seized on all present, and on none more than myself. The tremendous noise being over, we began to stare at one another. We very soon perceived that the cover of the furnace had burst asunder and flown off, and that the bronze was running over. I immediately caused the mouths of my mould to be opened, and at the same time to knock out the two tampions.

"But finding that the metal did not run with its usual velocity, and apprehending that the cause of this was that the fusibility of the metal was injured by the violence of the fire, I ordered all my pewter dishes and porringers, which were in number about two hundred, to be collected. With a half of them I filled my troughs, and the other I cast into the furnace. Upon this, my workmen perceived that my bronze was completely dissolved, and that my mould was filling; they now assisted and obeyed me with redoubled joy and alacrity. In seeing to one part and then to another, I said in my heart, 'Blessed art Thou, O my God, who by Thine almighty power didst rise from the dead and ascend in glory to Heaven!' At that very moment I found that my mould was full. I fell on my knees, and thanked God with my whole soul! . . . Then, having spied a dish of salad which stood on a little bench hard by, I ate of it with great and excellent appetite, and drank with all my journeymen and assistants, and went joyful and in good health to bed, for there were still two hours of night; and I rested as well and as thoroughly as if I had been troubled with no manner of disorder. In the meantime, my good housekeeper, without my having left any orders with her, had provided a young well-fattened capon for my dinner, so that when I arose, which was not till near dinner-time, she accosted me merrily, and said, 'Is this the

man who thought he was dying?' All my people having got over their fright and panic, and without delay procured earthen vessels to supply the place of the pewter dishes and porringers we had broken up, we all sat down very cheerily to dinner; indeed, I do not remember having ever in my life eaten a meal with greater satisfaction, or with a better appetite."

When Benvenuto uncovered his statue, the casting of it was perfect, with the exception of the toes and half of the right foot. When it was placed on its pedestal, which was itself elaborately and exquisitely finished, and uncovered, it won for him a thousand eulogiums, and, according to the fashion of the time, as many sonnets. This Perseus is not, however, a work of power; if a miracle were suddenly to change him into flesh and bone, he would infallibly fall forward; his legs are commonplace, and his hands are badly drawn; the members of the Medusa are doubled up like those of a trussed fowl. The general effect, however, is elegant, the outline easy, and the attitude modest, but proud; it represents the action of a young nervous and courageous lad, who has just achieved an extraordinary exploit: his knitted brow and quivering eyelid, his hand, which is tightly grasping the handle of his sword, menacingly, all this is well thought over and well expressed. As to the detail, the helmet especially, and the statuettes which form the angles of the pedestal, it is in these that the able goldsmith reveals his talent.

Benvenuto had studied much and long. M. Paul de St. Victor, with his exquisite appreciation of the Italian Renaissance, has been careful not to overlook this fact; and after quoting a fine passage of the "Discours de Cellini sur les Principes de l'Art du Dessin," he adds: "This enthusiasm for the beauty of the human form was shared by that whole period. We know with what fervour Michael Angelo studied the anatomy of corpses, placing a candle in their navel so as to study them far into the night. A skeleton is now no longer, as in the Middle Ages, merely the hideous vestige of corruptible flesh, but the admirable framework of vigour and beauty. Man bends over a death's head and examines it with the greatest admiration and interest; he no longer sees in it repugnance, but the secret of human life; he measures on the recesses of the cranium the orbits of Apollo's eyes, and from its grinning mouth he draws the gracious smile of Venus. The gods, nymphs, heroes, angels, and goddesses, which orna-



VASE AND CUP OF ORIENTAL JASPER, MOUNTED IN GOLD.

(Attributed to Benvenuto Cellini. In the Collection of the Gemmes et Joyaux de la Couronne at the Louvre.)

Page 350.

ment with their graceful forms the palaces and temples about us, grew out of a mass of corruption, as flowers do out of rotten heaps. The sixteenth century inaugurated the plastic triumph of Death."

The remainder of Benvenuto Cellini's works and life contain nothing wherewith to rivet our attention here. He might have murmured with that Latin poet: "Exegi monumentum." He made many busts, trinkets, a Neptune, but his Perseus was his pre-eminent work; and it is that which, putting aside his works in gold and silver — now irreparably destroyed — secures his life in the long-lived pages of history. On the 16th of May, 1563, he was chosen, together with Bronzino, Giorgio Vasari, and l'Ammanati, to represent the artists of Florence at the funeral of Michael Angelo. We were not wrong, then, in saying that his famous statue had "reinstated" him. Then the lion became a lamb, but a quarrelsome lamb still; he lost his claws gradually, one by one, and his teeth, which he still showed now and then to Baccio Bandinelli; he changed his den into a sheepfold; the last pages of his "Memoirs" are full of the account of his reconciliation with his country neighbours. He died on the 15th of February, 1571.

Notwithstanding his boastfulness and self-gratulation, there can be no doubt that he occupied an important place among the artists of his time; nor that Kings disputed him with Popes, and the aristocracy with Cardinals. The love of jewellery was the folly of the age, and men were subject to it as well as women, in Italy even more so than elsewhere. The taste, mannerism, and refinement made itself felt in poetry as well as in art. It was from Italy and their costly conquests that Louis XII. and Francis I. brought the passion for Italian works to France—a passion only justifiable when it is aroused by personal superiority.

All Europe joined in the collecting of those small figures which Cellini was wont to stick on the spout or neck of his vases, or to make creeping along the stands of his ewers and cups. Jewellery became nothing but an embossing of bas-reliefs. Even ponderous Germany grew enthusiastic about it; and the reader may judge, from the ewer at the Louvre Museum, and which we have here separated from its basin, of the use she made of helmeted heads rising out of an urn like the exit of a chicken from its egg-shell; of triumphs in the shape of running friezes in the midst of trophies of arms and of musical instru-

ments. For my part, I can think of nothing so mistaken as the starting-point of this ornamentation: satyrs, sitting more or less uncomfortably, like monkeys hitched on furniture, and handles, doing all in their power to conceal the place they emanate from, are masked with cords and ribbons, and fastened where they can, formally inviting one not to touch them! In this particular, again, the East gives us excellent lessons in taste, but she wisely abstains, in ornamentation, from the use of the human face. The Semitic races, who esteemed themselves even unto the making of gods after their own image, have, without intending it, diminished the dignity of humanity by associating to it what should be secondary only—that is, the animal, actual or fantastic, the plant, or the flower.

VENETIAN RING.
(Sixteenth century.)

Benvenuto had, at Paris, met with casters of whom he himself praises the ability and cleverness, although he states that "those old masters blessed the day and the hour in which they made his acquaintance." French sculpture, however, had nothing to gain from the advent of this matamoro, for Michel Colombe, Ligier Richier, Pierre Bontemps, Germain Pilon, Jean Cousin, and Jean Goujon had already done, and certainly did subsequently, finer and better things than the Nymph of Fontainebleau.

Among the Parisian goldsmiths, too, were some who were quite capable of maintaining the French tradition, which is light joined to grace. Such, for instance, is this ring, which has "ryen sans amour" for its motto. One of these goldsmiths, posterior to Benvenuto—he was born in 1518—was master Étienne Delaulne. There is one medal of his remaining, which is at the Cabinet des Antiques, and which represents Henry II.; all the rest of his work has perished. But we trace the abundance—so French—of his imagination, of his taste, and of his mind in the precious prints he engraved with his own hand, and in his pen and ink sketches on vellum. He seems to have quitted France from religious motives; and when he engraved

RING OF CHISELLED IRON OF THE FRENCH SIXTEENTH CENTURY.
(Sauvageot collection.)

EWER OF ENAMELLED GOLD.

(German work of the Sixteenth century. Museum of the Louvre.)

this priceless view of the interior of his workshop—for it is evidently one of his clients who is stooping and speaking through the open window, while his workmen finish or commence a dish and a vase, and enamel some trinket—Delaulne was living at Augsburg, and was

THE WORKSHOP OF ÉTIENNE DELAULNE.
(French goldsmith of the year 1576.)

very near the end of his earthly career. Owing to the quantity and choice of working material his engravings afforded to goldsmiths, enamellers, jewellers, pewter and tin potters, chisellers of iron, and carvers in wood, he obtained a very notable and very extended degree of influence; and

it is much to be regretted that the name of Étienne Delaulne is not more familiar to the public ear. In every respect he deserves to be recognised.

The jewels of the reign of Louis XIII. suddenly break off with the tradition of the allegorical figures of the Renaissance: the enamelled figures of virtues and vices, the combats of horsemen demonstrated in an oval no bigger than a nutshell, the deities of Olympus standing in niches,—all these give way to the taste for precious stones. This taste, we, for our part, cannot but applaud. The making of statues and bas-reliefs should be entirely left to the sculptor and statuary; it is not as the representation of a figure that a jewel should be judged; at a little distance all the admirably minute workmanship of the Italian jewels disappears, and merely suggests an indistinct blot. But, on the other hand, nothing can be so pleasing to the eye as the intense light and brilliancy of a well-cut and well-mounted diamond. It is certainly what best reminds one of that which is most mysterious, most living, and most attractive in the world, namely, the twinkling of a star. The pendant we reproduce here was composed by Gilles Légaré. In his series of published articles on French jewellery in the "Gazette des Beaux Arts," the only fault of which is that they were never collected into one volume, M. Paul Mantz has said of it: "This is the most reasonable, solid, and soberly French sort of jewel ever worn by the Montespans and Fontanges."

DIAMOND PENDANT.
After Gilles Légaré.
(French work of the seventeenth century.)

Although it has more variety of outline, and more subtleness of mounting, the jewel of the eighteenth century has less serenity and elegance. It made a use of enamel and gold that sometimes stood in the way of the stone's brightness. It also made use of polished steel and imitations of stones, which were not without a certain success; and in this we foresee the part which the middle class is about to take in the affairs of France.

The Empire has left us the names of celebrated jewellers, Thomire, Odiot, and others; but a heavy interpretation of the antique still prevailed. Who has not seen the high crowns, the combs which stand upright on the heads of Josephine, of the Queen Hortense, and of the ladies of the imperial court, in the pictures of David, and in the por-

VASE IN MASSIVE SILVER.
(By Claude Ballin, Louis XIV.'s goldsmith.)

traits of Prudhon and Gérard? Everything is becoming to a pretty woman, even that which is absurd. But when one actually handles one of these jewels, one is scarcely tempted to remember that Prudhon himself designed some of the jewels of his time.

Now-a-days jewellery is still doing marvels. The English, who daily

import workmen from us, at enormous wages—the English, and the English only—can compete with our Parisian jewellers; they have the same superiority with regard to the freshness of polish and brightness of colour of their metals; ours, however, have pre-eminent chasteness of mounting, lightness, and strength; producing twice as much

TIMEPIECE BY GAUDRON.
(Commencement of the eighteenth century. In M. A. Tainturier's collection.)

effect with half the number of stones. Workmanship is now more perfect than it ever was. The acquisition by the Louvre of the jewels in the Campana collection seems in itself to have exercised over the art a most salutary influence. Our artists have since had broader views, and a better idea of uniting thought with execution. Thus, for example, if they imitate natural or artificial objects, such as animals or

flowers, they simplify the details, and devote their attention to put in relief what is chiefly characteristic, and neatly and distinctly to designate the differences of race and species.

MARIE ANTOINETTE'S TIMEPIECE.
(In M. L. Double's collection.)

Jewellery, closely connected with feminine ornamentation, is infinitely more difficult to characterise than the goldsmith's art, which belongs

more exclusively to families; it follows woman in all the caprices of her head-dress, her clothing, and external habits. The style and fashion of jewellery may vary as often as twice in one year or season. Who will attempt to determine the exact year in which this collar or that bracelet, this belt-clasp or that spray for the hair, first left the jeweller's workshop? The art of the goldsmith is less changeable. Thus it is that one may, almost with the certainty of being correct, state that the silver vase by Claude Ballin (p. 355) belonged to the period of Louis XIV., because we find great and remarkable analogy between it and those vases which were cast on the models of Lepautre for the Park at Versailles. The timepiece, also (p. 356), which dates from the beginning of the eighteenth century, cannot but have belonged to a set of furniture in the style of the *Grand Règne*. These full arches, the cupolas with broken summit, and the volutes in the shape of a fiddle-bow, are also to be found in the Salon des Glaces à Versailles, and at the Louvre in the cornices of the ceiling of the Galerie d'Apollon.

Thus it is also with the timepiece of Marie Antoinette, belonging to M. L. Double (p. 357); it can only have struck in a boudoir of the eighteenth century. This urn, the central portion of which revolves on itself, so as to mark the hour under a stationary serpent's tongue—the serpent itself being the emblem of eternity; this profusion of precious stones scattered over the quiver; this torch, suspended across and fastened with a true lover's knot; this elegant and useful monument, well-conceived and marvellously cast, inlaid, chiselled, gilt, and enamelled: all combine to make of it a masterpiece inalienable from a period when the French spirit was most in possession of all its qualities and all its defects, and when it knew how most gracefully to display them.

We might then almost find, as it were, one whole side of the luxurious face of the "great reign," were it not for the irreparable disasters which compelled Louis XIV., vanquished and ruined, but always noble and proud, to send all his plate, jewellery, and the massive silver furniture of Versailles, to the Mint. We are acquainted with the outline of some of these sumptuous articles through the prints of Lepautre and of Bérain; there were even huge orange-tree boxes, and sofas of solid metal. It was necessary to save the honour of France; but it was as great a sacrifice as when the captain of a ship gives the order for the cargo to be thrown overboard.

CHURCH LAMP IN SILVER.

(By Thomas Germain, towards the year 1750.)

All the court followed the King's example; St. Simon relates it

SILVER CANDLESTICK, BY RŒTTIERS.
(Eighteenth century.)

like a gentleman, and Madame de Sévigné wept over the loss of her jewel casket. The amount melted down was incalculable. It was in

all probability at this time that all Cellini's work disappeared, since we know that the King went so far as to throw into the crucible a small equestrian statuette of King Louis XIII., his father, which could not have fetched more than a few hundred crowns.

But is it not singular, with respect to Cellini, whose name was not yet forgotten, that all his works, intrinsically of small value, should

NEF OF THE TIME OF LOUIS XV.
(By Meissonnier, in 1745.)

have disappeared, when candlesticks of the time of Louis XV., in massive silver, should still remain among us? It may truly be said that nothing but the Church treasures survived; and they, too, by a singular fatality, were destined to be swallowed up in the final shipwreck of the ancient monarchy.

Louis XVI., too, on the 21st of September, 1786, issued orders to his plate-keeper to send to the Mint "a whole series of plates, dishes, and

covers." As to the destruction of the treasure of St. Denis, it was to our national history of the goldsmith's art what the conflagration of the library at Alexandria was to the antique world. It was, as it were, the titles of nobility of the industrial art that France threw into the fire at this terrible conjuncture.

We have now but few remarks to make. Each one of our readers will recognise the style of Louis XV. in this "nef," of which we have already mentioned the use. Towards the year 1745 Meissonnier had it made for the King. The drawing of it only is known to us. It is evidently the sister of the lamp we have just illustrated, by Thomas Germain, 1750, and has the same elaborateness of style, the same shells and blunt projecting corners, and the same wreaths of acanthus leaves. To say the truth, we only half admire these specimens of vegetation in metal; and if we had any great predilection for the industrial arts of the eighteenth century, it would not be in its ornamental plate.

SEAL OF DIFFERENT-COLOURED GOLD, BY MOREAU. (Louis XVI.'s reign.)

Under Louis XVI. a charming application was made of gold of different colours. This seal, made from a design by Moreau, is as charming from the variety of its colours as from the excellence of its engraving and design. It should seem as if the goldsmith had summoned the help of the painter. M. L. Double has in his possession a snuff-box that is a masterpiece of this style; M. Edward Lièvre has reproduced it in his intelligent publication of "Celebrated Collections;" yellow gold, green gold, and red gold are combined and placed in juxtaposition, so as best to throw up the metal by contrast.

Now-a-days electro-plating competes powerfully with silver plate. How then is it possible, when riches almost universally consist in the

interest of money, to represent a few hundred thousand francs? The eye is equally pleased and gratified with a result that only costs about ten thousand. So far, then, good sense is in accordance with vanity. We cannot therefore now hope to see again large orders, such as those given for the ornamentation of the table of the Duke of Orleans, wrought by Barye, or such especially as that of the table service of the Duc de Luynes. Has not the town of Paris, that gives the signal for official economy, issued an order for its grand service for gala days to be made of electro-plate? We are, however, far from lamenting this fact. The general effect is absolutely the same, and we hope that this one at least will never have to be sent to the Mint.

Many a choice and elegant article has issued from the workshops of goldsmiths in the present day; those, for instance, invented and modelled by Feuchères, or by M. Klagman, or M. Vechte. We know the famous story of the shields by Feuchères, which were sold to the King of Prussia as works by Cellini, and which, exhibited in his museum until the day that the fraud was discovered, gave birth to more than one dithyramb in honour of the sixteenth century! We might mention, among contemporaneous works, various cups and vases to be run for at races. Unfortunately, these *chefs-d'œuvre* are, for the most part, signed not by the artist who designed them, but by the maker who fabricated them; and we will not once again establish a series of mistakes over which the future will not have spare time enough to hold an inquest. If, therefore, we hear that a trinket or statuette, a ring or a cup, comes from such and such a shop, well and good; but let it not be said that it is the work of this or that master, for that is equivalent to saying that a particular book was written by the publisher or bookseller of whom one may chance to purchase it.

It is impossible too loudly to protest against so violent an injustice, calculated only to lead critics astray, lessen the productive force of real artists, and suppress the dignity and wholesome pride of a name. For this reason, in its increasingly interesting exhibitions the *Union Centrale* has peremptorily insisted that each man shall be responsible for his work. The public, warned thereby, showed itself to be as intelligent and sensible as it always is. The loudest applause was bestowed on the glass cabinets of two young artists who, before having been able to set up a shop on their own account, had from time to time anonymously bestowed articles of great merit on the shops most

BEER POT OF EMBOSSED SILVER.

(By Messrs. Fannière Brothers. Belonging to the Emperor.)

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in renown and vogue; these are the Brothers Fannières. We have selected from their works the beer-pot in embossed silver here reproduced. It was purchased, on the occasion of his first visit, by the Emperor. The hops creeping over it so ornamentally suggest its use; its shape, without being anything extraordinary, is simple and practical, and the whole thing is in excellent proportion. The workmanship is exceedingly good. By their production of other works of plate, Messrs. Fannière Brothers have proved that their success in the working of this handsome article is not an exception with them.

But this is almost a solitary attempt. The true artist embosser; the true chiseller in the spirit of the time, is that electric agent who can reunite particles of copper, silver, and gold into one galvanic solution, and place them, with startling precision and imperturbable patience wherever the galvanic current may chance to indicate. This is electro-plate. The poet has said with regard to the substitution of printed books for manuscripts, "This will kill that;" and it may also be uttered with reference to all our industrial arts. Invention can lose nothing by it, but, on the contrary, it may hope to gain new channels; but what is to become of the instrument? what is now the artist without the workman—the soul without the hand?

TAPESTRY AND CARPETS.

The art of Tapestry probably had its birth in India.—The veil which the mother of Hector bestowed on Minerva—The contest between Pallas and Arachne—The carpets of Smyrna and Caramania, woven by young girls.

Tapestry penetrates to Europe, and first of all in France—The high-warp looms of the ninth century—The *Condamnacion de Souper et de Banquet* at the ducal museum of Nancy—*The History of David and Bathsheba* at the Cluny museum—*The Adoration of the Virgin*, from Van Eyck, at Rome.

The Italian school interrupts the order—The cartoons of Raphael at the South Kensington Museum—*The History of Scipio and the Fruits of War*, by Giulio Romano, in the Louvre collection of drawings—France owes them to an English painter—Correspondence on the subject of hangings, exchanged between the nuncio G. Bentivoglio, and Cardinal Borghèse—Les Verdures de Mons. Guillaume, in *L'Amour médecin*.

Summary account and history of the Gobelins manufactory—Francis I. and his royal mansions—Henry II., Henry IV., and Louis XIV.—Lebrun and Desportes—Boucher and his pupils—The tapestries which are signed by the contractors—The Gobelins of our day; Mons. Chabal Dussurgey—Mons. de Saint-Seine's Persian carpet—Details on the fabrication of high-warp tapestries, and on the low-warp carpets, termed Savonnerie carpets—The future of the Gobelins' manufactory—The use, on a small and private scale, of the Jacquart loom—Conclusion.

Tapestries worked by hand, and the Venetian embroideries of the sixteenth century—Rosalba Carriera—Finis.

TAPESTRY AND CARPETS.

It is in India, that cradle of humanity and garden of the decorative arts, that the art of tapestry had its birth. It is under the tents and in the palaces of the vast heap of ancient kingdoms which we call the East, that, during the long repose of an all but vegetating existence, women's needles for the first time traced representations of birds, flowers, and sometimes imaginary scenes, upon cloth. It was as much to meet a necessity as it was to indulge luxury that the workman's shuttle learnt to weave carpets which were soft to the feet of the master as the skins and furs of rare beasts. Now-a-days, carpets and implements of war are what chiefly remain of the fabulous splendours of Eastern rajahs. A Russian traveller relates that when these rajahs passed through a town, in ceremonies of state, cashmere shawls of great antiquity and rare beauty were spread out before their horses' feet for them to tread upon. A carpet, as coarse as a plait of reeds, is the sole furniture of these wandering and itinerant jewellers, who work gold with the hands and instruments of fairies. It is on a carpet that the fakirs, with their legs bent under them, and themselves immovable, converse night and day with Nature. It is on a carpet, more or less valuable according to his means, that the Mussulman turns his face towards Mecca to say his prayers.

Judging by the price that rich Asiatics set upon it, in periods which are to us pre-historic, we can imagine the perfection to which tapestry, worked by the hand or woven by the loom, was brought. Homer

often makes mention of it. When danger seems first to threaten Troy, Hector says to his mother: "The most elegant and the largest veil thou hast in thy possession, that which thou lovest best, spread out on the knees of glorious-haired Minerva. . . . He had no sooner uttered it than the queen herself descended into the scented chamber where were kept veils artistically worked by the Sidonian women, which the god-like Paris had brought from Sidon." The one she selected was the finest in the variety of its embroidery; "it shone like a star."

In the glass cabinets of the Egyptian Museum of the Louvre are exposed, among the articles from the collection Clot-Bey, fragments of tissues which demonstrate, according to the opinion of connoisseurs, the first use of a low-warp (*basse-lisse*) loom.

In his "Metamorphoses," Ovid relates, without appearing to fathom its hidden meaning, the combat between Pallas and Arachne; it is a fable which Greece had certainly borrowed from Asia, and which signalizes the traditional jealousy the artist feels with regard to a too clever workman. Arachne was Lydian; her father was a workman of Colophon, who was celebrated for the beauty of his purple dyes. When Pallas, provoked by Arachne, reveals herself, "they both sit down, and stretch the threads of the double warp upon a light frame; they fix them; a reed divides them; started by their fingers, the shuttle slips and forms the weft; then they consolidate the work by inserting a comb, whose teeth they pass between the threads of the warp." This is exactly the way in which the tapestry workers of the Gobelins go to work. Like them, also, the two rivals work in shades melting from one colour to another, mixing "threads of gold with prepared worsted of Tyre." They also work personified scenes: austere Pallas chooses for her subject the deplorable fate of human beings who venture to compete with gods; while the imprudent Arachne represents the gallantries of Olympus. At last they both surround their picture with a border; the one with a wreath of flowers intertwined with ivy-leaves, and the other with olive-branches.

A clever traveller named Jean Lagrange writes: "The carpets of Smyrna and Caramania are woven by women's hands. When a child is old enough to hold a shuttle, she is given worsted of all colours; and between two trees are stretched the cords that are to form the warp.

A FALCON CHASE.

(Arras Tapestry at the Castle of Aroué.)

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Then she is told: 'It is for you to make your own dowry.' For her guides, she has only the innate feeling of the beauty of outline, and the sorting of shades, and the tradition and the example of her companions. The work is slowly continued. Each successive week, month, and year, marks the growth both of the work and of the worker. When childhood is over and womanhood has set in, the carpet is generally completed; and then two masters, two purchasers, present themselves; the one carries off a carpet and the other a wife."

The art of tapestry seems in ancient times to have been altogether monopolized by the towns of the centre of Asia and of the sea-coast. Their produce was exported into Europe in merchant vessels from Tyre, which smuggled it much as Cleopatra smuggled herself into Cæsar's presence, rolled up in a carpet and carried on the back of a slave. The cataclysms of the Roman Empire must have inflicted a fatal blow upon it. Strong armour, horses, and thousands of slaves were the luxury of wandering conquerors, and when the general desolation consequent on their successive invasions was abated, the Western world arose, having itself adopted the barbarous manners and customs of its conquerors.

How and at what period did the art of tapestry make its way into France? This is a question which historical critics have failed to answer satisfactorily. It was, without doubt, through the Saracens, who, after crossing the Pyrenees, reached the very heart of France, and probably, too, by Byzantine workmen who had accompanied the mosaists under Charlemagne's predecessors.

The annals of our central towns, those of the north and north-east, testify at least, since the middle of the ninth century, to the existence of high-warp (*haute-lisse*) looms. A charter mentions that a Bishop of Auxerre, whose death occurred in 840, "ordered some carpets for his church;" towards the year 890, we find that the monks of the Abbey of Saumur manufactured some themselves; thus also with regard to Poictiers, Rheims, Troyes, Beauvais, Aubusson, Valenciennes, Tours, and Arras. But as early as the fifteenth century, the carpets and tapestries of Arras were pre-eminent. The Italians themselves, who admire them, have adopted the term "Arazzi" to designate historical tapestries. Nevertheless this superiority of French industry was slow in manifesting itself, for, in 1260, the produce of the looms of the "makers of Sarrazin carpets" belonged only to the Church, the

nobility, and the King. On the other hand, the "tapis nostrez," which in all probability were purely national, both in make and appearance, were the property of the gentry and middle class.

It matters little how the loom and the secrets of dyeing the wool were imported and taught. The fact which most strikes one is the sentiment of general harmony with which this French middle age, much abused when compared with the Italian Renaissance, took possession of tapestry for decorative purposes. In the church it was a softer echo of stained glass. When suspended to walls and columns on the occasion of State festivals, it endowed their time-faded pictures and paintings with an extraordinary degree of brilliancy. It instructed the ignorant poor in the historical episodes of the New as well as the Old Testament. René d'Anjou bequeathed to the "Church of Monsieur St. Maurice d'Angers" (in 1461) his tapestry of the Apocalypse, comprising seventy-five subjects, on an alternately red and blue ground; they are still the chief ornament of that cathedral.

In feudal castles tapestry formed, as it were, a new page in a large book of miniatures, translations for those who could not read, the "histories" or legends, then popular, suggesting well-known hunts and festivities, recounting celebrated tournaments or famous battles, giving grave lessons too in morality and propriety. A series of Valenciennes tapestries describes in three chapters, with clear and touching simplicity, the incidents of a falcon chase. The museum of Cluny exhibits the "Bataille de Jarnac" and the "Bataille de St. Denis," done from life (*portraites au naturel*); at Orleans may be seen the triumphant entry of Jeanne d'Arc.

In the *salle des cerfs* of the ducal palace of Nancy is preserved a specimen of high-warp tapestry, composed of seven pieces, in worsted and silk, originally brought away, it is said, from the tent of "Charles le Téméraire" at the battle of Nancy (January 5th, 1477).

Besides the feeling of national pride which attaches to it, it is curious on account of its subject, the *Condamnacion de Souper et de Banquet*. It is a whole story in itself, whose allegorical basis is intended to expose the snares and drawbacks of good living. The names of the personages present, which also indicate their mission, are written in Gothic letters and inscriptions. These are: *Diner, Souper, Banquet;* also *Bonne-Compagnie, Passe Temps, Gourmandise, Friandise, Je Boy-à-Vous*, &c. &c. Then comes a Fool, with

his bauble and the acolytes of the banquet: *Apoplexie*, *Pleurésie*, *Colique*, and *dame Expérience*, who, after a violent contest, arrives followed by *Remède*, *Diète*, *Pillule*, &c. It is a complete "illustrated work," and these shrewd and witty illustrations make us almost fancy that we are sitting at the table of some rich *gourmet* of 1450; there are two peacocks, each having a sort of shield, destined to bear the amphitryon's coat of arms, suspended to their neck; a sow tatooed; a vessel full of birds, plying on a sea full of fish, hurried on by means of a sail of silk and ermine, and having for its flag a representation of Venus; coloured wax-lights illumine the table-cloth, and light up a magnificent dressoir filled with rich and costly plate, while musicians are cheering the company.

Let us here remark, as a trait which should not be overlooked with regard to the morality of these pictures, that, as the Duc Charles le Téméraire was, in the midst of his sensual court, noted for his sobriety and moderation, this piece of tapestry of the "Condamnacion de Souper et de Banquet," no doubt concealed some sharp but hidden and epigrammatic meaning.

Tapestry, up to the end of the fifteenth century, satisfied the soberest principle of decoration. This it accomplished by the juxtaposition of flat tones; by very sharply defined expressions of countenance in the figures wrought, and by a grave dignity in their attitude and a still folding of their draperies: it grouped them, and placed them in a high style of perspective, one above the other, in order that the eye might easily embrace the general effect of the scene; it simplified, as much as possible, the gradations of colour which aerial perspective demands; in a word, it avoided as much as possible, either by the multiplicity of its colours or by the disposing of its lines, "making a picture," and isolating itself from the wall, which it hid without pretending to displace it, and it completed the furniture without appearing to overpower it. For this reason, however severely time may have bitten into them, the tapestries of that period have preserved a singularly harmonious character, and even where the subject is no longer discernible, a combination of subtle lines and hues remain, which is still remarkably decorative.

We will refer the reader, who may wish to be further convinced, to that magnificent Flemish hanging of the reign of Louis XII., the "History of David and Bathsheba," at the Museum of the Hôtel

Cluny, and which covers the sides of the large square *salon* on the ground-floor. Although it was originally made, it is believed, for the Court of France, it has successively belonged to the Duke of York, to the Marquis Spinola, and to the family of the Serras of Genoa. Indeed, the principles of that period were of a broader sort, at least those of the French, and especially the German and Flemish painters. The religious compositions of Lucas von Leyden, for instance, might undergo without risk the transition from the panel to the loom. A tapestry after Van Eyck has recently been discovered at Rome in the possession of a private family, and it has been restored with the most scrupulous care. Mons. Alfred Michiels has described it minutely in his conscientious work, the "History of Flemish Painting" ("Histoire de la Peinture Flamande"). It is rich in silver cord and silk. There is the Virgin Mary with her Divine Son on her knees, while nine angels are adoring Him and praising Him, together with four shepherds, the donor, and a distant view of his native town, &c.

Italian art, though not that of the earliest years, effected a change in all this. Nothing short of the genius of Raphael and the respect which attaches to his works, can reconcile us to accepting without protest the revolution he effected in designs for tapestry. Were not the arabesques he composed with so sweet a revival of antique taste about them sufficient? and what was the necessity for transforming tapestry into a sort of shallow fresco? We know that Raphael was commissioned by Leo X. to complete, by a series of ten designs for tapestry, the Sistine Chapel, of which Michael Angelo had decorated the dome. These designs, ten in number, were carried out at Arras in a tissue of silk, yarn, and gold. They reached Rome in 1519, only a few months before the death of the great master who had composed them. There they excited universal enthusiasm, and Vasari declares "that they seemed to be rather the work of a miracle than that of men's hands." Raphael had selected his subjects from the Acts of the Apostles, to which, however, he added the "Coronation of the Virgin" for the altar-piece, which occupies the farther end of the chapel.

England now possesses seven of these cartoons. They have, however, been wetted and faded; perforated, too, by the needle of the copier, carelessly stuck to a coarse common paper, and, worse than all, they have been touched up with an indifference, or a pretension, which is positively harrowing; nevertheless, they show, like those

THE HISTORY OF DAVID AND BATHSHEBA.

(Flemish Tapestry of the reign of Louis XII. At the Museum des Thermes et de l'Hôtel Cluny.)

fragments of an antique torso, which time has not altogether obliterated, the wise and powerful touch of a great master and decorator. Rubens discovered them lying rotting in a wooden box, and cut up in narrow strips for the greater convenience of the tapestry-workers who copied them. In 1630 he prevailed upon King Charles I. to purchase them, and he caused them to be placed in Whitehall. Later on Cromwell persuaded the State to buy them for the sum of three hundred pounds, and after other misadventures too lengthy here to recount, they were put up in one of the rooms in Hampton Court Palace. They are now to be seen in London at the South Kensington Museum, to which the Queen has graciously lent them. Some very fine photographs of them were taken a few years ago by order of Prince Albert.

Tapestries from these cartoons were exhibited in the year VIII.—this fact is but little generally known—at Paris, in the Court of the Palais National des Sciences et Arts, that is to say, in the Court of the Louvre, in conformity with the first article of the anniversary fête of the foundation of the Republic. They had then first arrived from Italy. The government officers at Rome had purchased them for France at the sale of the Pope's household furniture and effects. To these were added some of the finest produce of the Gobelins, from designs by Jouvenet, Restout, Le Brun, and Coypel. We do not know whether they still form part of the Crown furniture and effects, or whether, notwithstanding their having been purchased, they were returned to the Allies at the fall of the First Empire.

We have at the present moment in Paris, in the rooms devoted to designs and drawings of the Italian school, four large cartoons for tapestry, by Giulio Romano. If they be inferior to those of Hampton Court as to their conception and execution, they are, at any rate, worthy of forming a point of comparison with them. They are painted in distemper: one of them, the "Triumphal March," is taken from a "History of Scipio" which belongs to the Cavagnac family, and was recently exhibited at the private gallery of the club of the Rue de Choiseul. The three others, the "Prisoners," the "Stormed City," and the "Triumph," form part of the "Fruits de la Guerre," bitter fruits of which humanity is not yet tired. . . . . The "great tapestry of Scipio," made in France towards the year 1534, and composed of silk and worsted heightened with gold, obtained for a long time the admiration of strangers; it was still in existence in the catalogues

of the Crown, in the middle of the seventeenth century. Since then it has disappeared. Happily the "small tapestry of Scipio" still exists. It consists of ten pieces, in lengths of seven ells. The hanging which represents the "Fruits de la Guerre" was copied at the Gobelins in the reign of Louis XIV.

In his "History of English Painters," Mr. A. Cunningham relates how these four splendid cartoons of Giulio Romano re-entered France, after having been sold, doubtless as rubbish, by the tapestry-workers, when they had done with them.

The miniature painter, Richard Cosway, a great amateur of drawings and curiosities, was one day visiting the Louvre with his wife. He was surprised to see the bare and naked appearance of the walls, and said, "Maria, my cartoons would look well here, and, to say the truth, they are almost a necessity." He greatly esteemed them, and had refused a considerable sum offered him for them by Russia. Notwithstanding this he offered them to the King in 1785, who accepted them, and graciously sent him in return a complete collection of Chalcographic engravings, together with four handsome pieces of Gobelins tapestry representing the "Adventures of Don Quixote" after Coypel, which were valued at 14,210 francs. These Richard Cosway generously presented to the Prince of Wales.

At the commencement of the seventeenth century Flemish tapestries in the Italian style were still in great favour. Monsieur Armand Baschet, an erudite lover of art, has published the correspondence between Guido Bentivoglio, the nuncio at Flanders in 1607, and Cardinal Borghèse, on the subject of a purchase of tapestry, which, in the opinion of these impatient amateurs, was not settled with sufficient promptitude.

Had it been a question of annexing a new province to the Papal States, or of obtaining the admittance of miscreant souls into heaven, they could not have written more frequently, more anxiously, or more pressingly! Bentivoglio had just purchased for the Cardinal Montalto a tapestry originally made for King Philip II., from the designs of "a valiant painter," when the letter of his "illustrious lordship" arrives, requesting him to lose no time about this matter. He expounds his "project" for another tapestry hanging, which is about to be carried out at the same tapestry-makers, representing the "History of Samson."

"It was designed," he writes, "by order of Henry II., King of France; but by reason of his death and the kingdom's troubles, the work was never begun. The painter was from Malines. Though born in France, he spent many long years in Italy, where, by imitating the valiant artists of that time, he acquired a high reputation. This design is of singular beauty, and betrays great power of invention; it is full of very large figures endowed with an extraordinary majesty." The whole of this "History of Samson" consisted of twelve pieces, all about five ells in height, without the border. What a grand effect must these "histories" have produced on the walls of the Italian palaces of the seventeenth century, so pompous and rich, and yet so stately!

But to return to our prelates. Later on, Bentivoglio offers the cardinal in Italy "a hanging in six pieces, suitable for one whole room. They represent different gardens in perspective of an effect most elegant and gracious."

These are very like what are still known under the name of "des verdures," which are made at Beauvais. Later still, in 1617, when made nuncio to France, he discovers new ones. . . . . "The colours of these are of the brightest, enriched with a good deal of gold; the border is especially beautiful, as much from its singularity as from its richness of design, for it is almost entirely of gold. All the figures are life-size, and represent the 'Fables of Diana.' Their actual possessor asks sixteen thousand 'scudi' for them, and protests that he has refused twelve thousand."

What, again, has befallen this series of the "Fables of Diana?" No one knows. But this border, "almost entirely of gold," would suggest the possibility of their having been burnt for the sake of their ashes. Rather this, than that they should have fallen the prey to rats' teeth or to the ragman's back!

In truth, these were the last flourishing days of tapestry. In halls and state rooms, the dimensions of which were already growing smaller, it began to make way for the less costly stamped leather. The taste for this style of decoration was passing from the aristocracy and higher class to the lower middle class. Thus it is that in the "Amour Médecin," when Sganarelle asks his friends and neighbours to suggest a remedy that will cheer his daughter Lucinda, Monsieur Guillaume says: "If I were in your place I would buy a fine hanging

of tapestry 'de verdure,' or with figures, and I would suspend it in her room, to enliven her mind and raise her spirits." We know that Molière was very fond of that style of decoration, for several "verdures" figured in the catalogue of his effects after his death.

A rapid glance at the history of the Gobelins manufactory will bring us on to our time.

The first of the Gobelins, who established himself at Paris, was called Jean, and came, it is said, from Rheims; this was towards the end of the fifteenth century. He prospered rapidly, and his son Philibert bought a great deal of land on the narrow banks of the Bièvre, the then abundant and limpid little river to which Rabelais, in his *Pantagruel*, assigns so amusing an origin, and which has now become an insignificant and almost stagnant stream. Its waters were in those days supposed to possess particular virtues for the dyeing of yarn; probably the chief virtue actually lay in the ability of the workmen's hands; in any case, the colours are now as brilliant and as fast as ever, although they have only been dipped in the waters of the Seine or in that of some deep well.

By that time the Gobelins had made an enormous fortune; one of them, Antoine by name, became the Marquis of Brinvilliers; his wife was the famous poisoner who decimated the court and the town alike. Later on they handed over their establishment to the brothers Cannaye, who occupied the opposite side of the river. These imported from Flanders workmen who worked the high-warp loom under the direction of a man named Jean. Still later, when Colbert purchased the Hôtel des Gobelins, properly so called on behalf of the King, it belonged to a counsellor of State named Deleu; but the adjacent buildings continued to form a manufactory for dyeing and making tapestry, under the direction of a man named Glück, a native of Holland.

It was Francis I. who, to meet the immense demand for the ornamentation of his royal palaces, first thought of uniting in one centre the fabrication of those tapestries which were carried out after the designs of decorators brought by him, or sent for, from Italy. This centre he established at Fontainebleau, under the direction of Philibert Rabou, superintendent of his buildings, and of the architect Sébastien Serlio.

Under Henry II. Philibert Delorme took the direction of the royal

factory, another of which was established in the "Hôpital de la Trinité," in the Rue Saint-Denis at Paris. Henri Lerambert furnished it, as well as the manufactory of Tours, with designs.

Henry IV., notwithstanding the persistent opposition of Sully, who would fain have had France concentrate its forces solely for the advancement of agriculture and industry, protected the art of the tapestry-worker regally. He summoned to him some of the cleverest Flemish hands, and when the Hôpital de la Trinité in the Faubourg Saint-Antoine was vacated by the expulsion of the Jesuits, the manufactory was removed to it, and thence to the Palais des Tournelles, thence to the Place Royale, and to the galleries of the Louvre, and lastly it settled down at the Gobelins in 1630, under the direction of Messrs. Raphael de la Planche and Charles de Comans.

In 1662 Louis XIV. and Colbert united in this establishment, which since that time has scarcely altered its physiognomy, all industrial centres working exclusively for the King: tapestry, dyeing, embroidery, jewellery, foundery, engraving, cabinet-making, &c., &c. In 1663 Charles Le Brun was placed at the head of this huge establishment, in whose hands it made rapid strides.

These fine tapestries, which were made from his "Histoire d'Alexandre le Grand," and from the battles and sieges of Van der Meulen, are well known; also the rich framework of flowers and fruits with which Baptiste Monnoyer surrounded them. The apartments at Versailles and Fontainebleau still retain some splendid specimens of the magnificence of the "Sun King." At the Élysée there is the strangest copy of Raphael's "Judgment of Paris." The goddesses are draped à la Montespan, while Paris is capped with a wig à la Louis XIV. Nevertheless, these were always pictures copied as literally as possible, and, as it were, frescoes in worsted. The finest of the series is that of the "Four Quarters of the Globe," taken from models of animals, fruits, and plants, by Desportes.

Jean Berain, an able designer, and later on Claude Gillot, the master of Watteau, brought tapestry back to surer principles, for a time at least. Those compositions in which monkeys are gamboling in the midst of intertwisted boughs, where the Seasons are seated on chimeric and impossible thrones superintending grotesque combats, have many a time given pleasure to French taste, which always demands a clear subject, and which has an intelligent appropriation

of the Oriental tradition, and that is to entice and fix the eye with a pleasant interlacing of lines.

Boucher (who was at one time at the head of the Gobelins) and his pupils successively painted for that manufactory as well as those of Beauvais and the Savonnerie, pastoral scenes so brilliant and so fresh, and yet simple, as never to have been surpassed. But, by a manifest error of tastes, they made shepherds walking straight down the wall, after sheep decorated with lilac favours, or else thus engaged they were made to recline on the horizontal seats of sofas and chairs, so that—and indeed it is still too often the case in our day—one is made to sit on a pigeon house, or step into the wavy waters of a seaport.

It was error sufficient to copy too literally the figures of persons or trees, upon a surface which a gust of wind would displace, or one fold sever in two; in this, however, there is a conventionality to which the mind, with a slight stretch of imagination, gets easily accustomed; but how great a mistake it was, to sprinkle the ground with ready-made bouquets, or with panoplies! One finds oneself at every moment, when walking on these large Savonnerie and Aubusson carpets, on the point of thrusting one's feet against a roll of leather, or crushing a basket full of cherries.

The signature of Andran or Cozette, which one so often remarks on some of the finer pieces of Gobelins tapestry, designate not the workman, but the contractor or manager. Cozette held that office from 1736 till 1792. In the catalogue of a very mysterious sale which took place in 1777, and which was perhaps that of Madame Dubarry, I find the following items, which go to prove how much importance was attached to the good preservation of fine tapestries: "Two pieces of pastoral subjects, in tapestry, by Cozette des Gobelins, after François Boucher. They are glazed, the size of each glass being seventy inches wide, and forty-eight inches high."

Now-a-days the manufactories of the Gobelins and of Beauvais, which, after being divided, have returned to one direction, have given up copying pictures made entirely with a view to being pictures—such, for instance, as the "Massacre of the Mamelukes," by Horace Vernet, or the "Holy Family" of Raphael. Artists are required to draw special models, of which the composition is simple and the drawing clear. In so doing a great economy of time is gained, and con-

sequently of money, to say nothing of an infinitely more satisfactory result. The effect produced does not lie in the multiplicity of colours, but in their intrinsically good quality, and especially in their correct juxtaposition. The most distinguished decorator which the manu-

SHEPHERDS AND SHEPHERDESSES. GOBELINS TAPESTRY AFTER BOUCHER'S DESIGN.

(Mons. L. Double's collection.)

factory has yet possessed is Monsieur Chabal-Dussurgey, of Lyons ; he was a man of great intelligence and rare artistic merit. He only painted flowers and ornaments, but these he did with incomparable correctness and simplicity.

The Persian carpet here engraved, and which belongs to Monsieur de Saint-Seine, is one of the finest samples of splendour and Oriental fabrication, of a period which answers to that of the French Renaissance. It is supposed to have come from the harem of Constantinople. It is like a page, woven in silk, out of those Persian manuscripts, the characters of which are in themselves of the most subtle and ingenious design, and as harmonious and warm as a Venetian picture. The dominating colour throughout is a brilliant yellow, deep and intense as the inside of a ripe apricot. Where the light catches it, it glitters like a lake under the rays of the setting sun; while in the shaded parts it has a depth which is only comparable to the shadow of a nugget of gold. It contains about twenty different colours, so clear and distinct that they are easily counted—yellow, black, white, two or three different blues, two or three reds, greens, and greys.

This is the style in which, in our day, orders should have been given to the first artists of our generation, and especially to colourists. The price of the work would certainly not attain that of the dull and tasteless pictures which have come out of that celebrated manufactory, and it would set to the manufacturers an example that they would be sure to follow. What elegant and brilliant compositions of this sort a master like Eugène Delacroix would have furnished us with!

The Gobelin tapestries and the carpets of the Savonnerie are worked with a high-warp loom. The warp is generally of worsted, and is vertically stretched on two cylinders, technically called in French "ensouples." The threads running parallel and level with each other are alternately passed over a glass tube of about an inch and a half in diameter, called the "bâton d'entre-deux," or inserting pin; and that which is called "le bâton de croisure," or crossing-pin, so that one half of the threads, relatively to the worker, is in front and the other half behind. The waft is rolled upon a wooden shuttle which terminates with a point at one end. This they call "broche," or *spindle*.

"In order to make the tissue," writes the late director of the Gobelins, Monsieur Lacordaire, in his excellent notes on that establishment, "the workman takes a spindle filled with worsted or silk, of the requisite colour; he stops off the weft thread and fastens it to the warp, to the left of the space to be occupied by the colour he has in hand, and then, by passing his left hand between the back and the

PERSIAN CARPET OF THE SIXTEENTH CENTURY, IN SILK.

(Collection of the Marquis of Saint-Seine.)

front threads, he separates those that are to be covered with colours; with his right hand, having passed it through the same threads, he reaches to the left side for the spindle, which he brings back to the right; his left hand then, seizing hold of the warp, brings the back threads to the front, while the right hand thrusts the spindle back to the point whence it started. This going alternately backwards and forwards of the shuttle or spindle, in opposite directions, is called in French two 'passées,' or one 'duite.'"

In order to introduce a new shade of colour, the workman takes a new shuttle. He cuts his thread, stops it off, and lets the preceding shuttle and thread hang from the wrong side of the work, which is the side on which he works. At each successive "duite" he collects with the pointed end of his shuttle the weft threads of the portion of work already completed. This first compression, however, is insufficient, and only temporary; after placing a few of the above "duites" in juxtaposition, one above the other, the operation is completed by combing the weft down from the top to the bottom with a large ivory comb, the teeth of which fit into the threads of the warp, which are by this means all brought to their place and hidden.

In order to make the outline of any given subject to be represented, and to know when to pass from one colour to another, the workman is guided by a black line traced on the warp from a transparent paper, on which has previously been traced the model to be copied. This line is made visible on the right as well as on the wrong side of the warp, so that the artist has it before him all the while he works, whether he sits at his post or whether he leaves it to judge of the effect from a little distance. This is for the outline. The picture is always placed behind him.

The colours, however, are not placed suddenly side by side without intermediate tones. The intervals which separate the "duites" irregularly, in order to avoid a look of patchwork or mosaic pavement they would present, are called "hachures."

Unfortunately, but we only speak from an artistic point of view, the recent chemical researches, instead of being carried in the direction of the brightness and fastness of colours, have been occupied chiefly to discover a greater number of them.

A chromatic circle has been obtained which consists of several thousand semi-tints, that is to say, all the possible gradations of colour

which, for example, separate yellow from blue in passing through all the varieties of green.

It was done with a view to meet the requirements of the painter's palette, which painter, while he creates his picture, is the last to think of the dilemmas and puzzles he is inflicting on the tapestry-workers, whose business it is to reproduce it in worsted. Towards the year 1812, however, a head workman had the happy inspiration of replacing the intervals of one shade with intervals of two shades combined; that is to say, to use a double thread of pink and green, for instance, to produce a grey tint, and red and blue to form a lilac. This plan is now almost the only one adopted. It by no means assures the durability of the colour, however, and serves for little else than to produce a sort of general harmony, grey and dull, dear to the school of David, but eminently calculated to inspire all beholders with melancholy.

This is not the Oriental way of proceeding; they understand too clearly that harmony springs, on the contrary, from the apparent contrast between two distinct colours. Mons. Chevreul has clearly demonstrated this in a work on the theory of colour, a summary edition of which ought to be ranked in the classical library of all educational establishments both for girls and boys.

The carpets of the Savonnerie essentially differ, both in method of execution and in result, from those of the Gobelins, properly so called. The workman sees the right side instead of the reverse of his work. It is a velvet pile, instead of a smooth surface. The loom is of the same shape, but of much more considerable dimensions. The worsted threads are bound around a sort of cutter (tranche-fil) or iron stick of very small diameter, which terminates like the blade of a sharp knife; this occupies a horizontal position on the work, and is used to carry in succession a series of uniform small rings of worsted produced by the repetition of the stitch; when one cylindrical portion of the thread-cutter is covered with these rings, the blade is drawn out in order to cut them, and thus to form a double row, light and close, of short upstanding bits. These are knit together and kept firmly in their position by means of a thread of hemp, which is placed after each row, and tightened with an iron comb. They are shorn with large scissors with double bent handles, so that they may present a perfectly smooth and even surface. In large carpets, that thickness

which for the sake of an image one might compare to a thatch, is about half an inch deep. For those carpets of current use, such as bedside rugs, it is little more than one eighth of an inch in thickness. The delicacy of this last operation may easily be imagined. The carpets from Smyrna have in this respect a degree of regularity and suppleness which even the Gobelins are far from attaining.

Real Savonnerie carpets have become extremely rare, for notwithstanding their very great solidity of fabrication, it must be remembered that they are but intended to be trodden under foot. The "Mobilier de la Couronne" possesses some which date as far back as the first years of the Savonnerie.

The imperial manufactory of the Gobelins is one of the institutions which represents so beautiful and interesting a period of the past, that, notwithstanding its only relative usefulness, it is entitled to honour and respect. Its produce is a produce of the State. Louis XIV. sent out to the King of Siam, to the Czar of Russia, and the King of Prussia, carpets and hangings of great value. In 1855, France presented the "Massacre of the Mamelukes," which had cost about forty thousand francs, to the Queen of England. In olden days, too, noblemen could give orders for tapestries such as modern fortunes can no longer afford. The State, therefore, in order to give occupation to those artists whose studies produce masterpieces, appropriates all its production either for the furniture of palaces, or for wall decoration. One chance still remains for this manufactory, that of placing itself in connection with the requirements of the public; it must renounce all literal reproductions of pictures, and, following the example of Beauvais, which is still under one and the same management, devote itself to purely decorative subjects. It would be well, too, if its productions were given a place in the yearly exhibition of pictures, as was done indeed until within a few years of this time. In 1835, and in 1838, at the picture exhibition, the public had an opportunity of admiring, and with justice, the Gobelins tapestries after Rubens, which Louis Philippe later on caused to be placed in the long gallery of the Palais de Saint Cloud.

Subject, in its turn, to those laws of mechanical advance towards perfection which has transformed nearly all modern branches of industry, the imperial manufactory of the Gobelins will, of necessity, have to simplify the style of its looms, for assuredly carpets and wall

hangings, trodden under foot, or suspended on furniture for daily use, meet the demands of a kind of luxury and comfort which have alike become indispensable. The dull colour which absorbs the light is useful in setting off the quality of material and the softer tones of flesh. We frequently meet with pieces of tapestry, faded, it is true, by long exposure to light and air, in the studies of painters, whose eyes are keenly impressionable. Painted paper is but a coarse fac-simile of them.

The average prices of the Gobelins are almost unapproachable. The City of Paris has lately given, to the private manufactory of Sallandrouze, at Aubusson, an order for a complete series of decorations for the Salle du Trône of the Hôtel de Ville.

There still remains to be seen what the tapestry of the future is to be. Both in France and in England a thousand fruitless attempts are being made to arrive at extreme cheapness, but these have resulted only in extreme absurdity; for instance, the plan of gumming felt on to calico! The solution will probably be the substitution of the Jacquart loom, or some analogous combination, to the high and low warp looms. This ingenious method produces a stuff, a kind of reps rather than anything else, but the appearance is the same, and the material itself is infinitely stronger. A carpet of worsted is woven as if it were a piece of woven silk. A manufactory, which, for some years has been established at Neuilly, has greatly distinguished itself at recent exhibitions. The principal economy obtained rests in the fact that when once a given subject is mounted it may be reproduced over and over again, whereas at the Gobelins each piece is an independent work, and unique in its way. In the Neuilly tapestry, which, as we have already said, is a literal application of the Jacquart loom, the model mounted and set as if for a French shawl or for a piece of figured stuff, as it were, writes itself out under the hand of the worker, after traversing the cylindrical holes of more than several thousand sheets of pasteboard, a combination which is at once very simple and very complicated. The chief outlay on the part of the maker rests in the first arrangement of these pasteboards, which may, in a complicated pattern, attain and even exceed the sum of ten thousand francs. But this first groundwork gradually decreases in value, in the process of reproduction, so that the tenth reproduction will only be worth one thousand francs, and so on. It is a democratic and social loom.

THE HARE AND THE PARTRIDGE.

(Specimen of the Tapestry of Neuilly)

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This enables that influential entity called society, generally to order the covering of a whole suite of furniture for a sum equivalent to what, in the seventeenth century, the Duke of Northumberland or the Prince de Condé must have paid for one sofa or about six chair-covers. So it is that in the year 1862 France produced fifteen millions of francs' worth of carpets. Smyrna exports double that amount in value, and England, where domestic houses are so comfortable, fifteen millions also, importing the same amount.

Here must terminate our notes on tapestry, which has shared the fate common to all humanity, and succumbed under the fatal law of successive substitutions. It succeeded to mural painting, and to mosaic ornamentation, and was supplanted in its turn by gilt leather, and painted wood, and lastly painted paper supervened. Ever since the day when man forfeited the liberty of his natural state he has been untiringly seeking to disguise the walls of his prison-house with representations of the splendours of a palace, or the freshness of a landscape.

Let us devote one or two lines to the subject of tapestry worked by hand with a needle, and to those Italian books, printed for the most part at Venice in the course of the sixteenth century, containing patterns for embroidery, lace, transferring, point-lace, hand worsted-work, &c. &c. The combinations they present are always in the best of taste, and are generally easy of execution. These volumes, which are much in requisition and esteem with great amateurs, have become exceedingly rare, like everything that has passed from the hands of children and women to those of artists. Their titles were in the elaborate and mannered style which was fashionable in the Italian literature of that period: "La Fontaine des Exemples," "La Gloire de Minerve," "Le Jardin des Modèles," "Le Triomphe de Vertu," "Le Festin des Belles Dames," &c. &c. It is the desire of being useful to some one of our fair readers which has induced us to give the accompanying illustration; if we broached the subject of hand tapestry we must needs have mentioned the Bayeux tapestry, and called it "Tapisserie de la Reine Mathilde," but such is not our intention.

The tapestry worked by stitches with a needle, forms a part of embroidered, and not of woven, produce. The most celebrated and best Italian or German painters have not disdained to furnish patterns for it. Some of these are extant, both by Leonardo da Vinci and

Albert Dürer. The Florentine Raffaelmo del Garbo (1466—1524), pupil, friend, and fellow-worker of Filippino Lippi, made a number of designs for the *Ricamatori*, those able embroiderers who, by mixing gold thread with silk, produced such gorgeous altar-cloths and sacerdotal vestments.

Lastly, we meet with a gentle and fascinating face wherewith to close these pages; it is that of Rosalba Carriera, who, before she became a celebrated artist in chalks, was an embroiderer of needlework at Venice, with her sisters. Our fair readers may be encouraged by it.

PATTERNS FOR HAND NEEDLEWORK.

(Taken from a Venetian Work by Giovanni Ortani, 1567.)

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